

# Purchasing Week

MCGRAW-HILL'S NATIONAL NEWSPAPER OF PURCHASING

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Vol. 1 No. 40

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\$6 A YEAR U. S. AND CANADA \$25 A YEAR FOREIGN

# '59 PLAN

## Modernize now for growth and profits

A SPECIAL REPORT FROM MCGRAW-HILL TO AMERICA'S BUSINESS EXECUTIVES

### Air Force Tempering Regulation On 'Make-or-Buy' for Contractors

Washington—The Air Force is finalizing a new procurement regulation which will spell out how prime contractors must handle "make-or-buy" items in contracts totalling \$350,000 or more.

The rule, expected to become effective sometime next month, is tempered down considerably from proposed regulations circulated among the aircraft industry 18 months ago. Basically, it is aimed at giving subcontractors a fair shake of defense work.

In the shift from airplanes to missiles, prime contractors have been handling more and more of the work previously farmed out to subcontractors. Contractors using rent-free, government-owned facilities often have a cost advantage over subs.

Indirectly too, the primes get an edge over other contractors, the Air Force states, where the government has furnished capital for regular production expansion and left the contractor's private capital free to expand into new areas.

The industry had put up a  
(Continued on page 40)

### Seaway Spurs R.R. Competition

Chicago — Another western railroad is beefing up its foreign freight operation in anticipation of the St. Lawrence Seaway opening next year.

The Chicago Milwaukee St. Paul & Pacific, which already has one eye cocked on the business potential of Alaska, is preparing a brochure that will tell shippers some of the finer points of importing and exporting. Another western railroad, the Chicago & North Western, already has begun distributing such a handbook.

The Chicago Milwaukee appointed R. T. McSweeney as foreign freight traffic manager with three foreign freight assistants in Chicago, New York, and Seattle. The road's vice president for traffic, W. W. Kremer, said the moves were designed to serve an "accelerated export and import trade with the greatest possible efficiency." Kremer said the road also looks forward to a substantial increase in  
(Continued on page 40)

### Martin Revamps On 'Make-or-Buy'

Denver—The Martin Co. recently revamped its "make-or-buy" setup at its huge missile plant southwest of here. Its operations could be described as "typical" of major aircraft and missile makers.

The Martin Committee is made up of division heads from procurement, master-planning, manufacturing, and engineering. It is a committee which makes decision on a daily basis.

Original air force contracts usually state what "major" items are to be made or bought by prime contractor. The numerous "hardware" items, such as  
(Continued on page 40)

### New Auto Prices Spark Reprisals

Some state, county, and municipal purchasers are toying with the idea of buying foreign cars to counteract the auto industry's new policy which cut off direct factory sales as of Oct. 1.

Governmental P.A.'s throughout the country are considering changing auto specifications to permit six and four cylinder cars to compete. This could open the door to the less expensive imports and smaller American models.

"The severe change in pricing policy made by Detroit has made us all take another look at our car buying operations," said John G. Krieg, city purchasing agent of  
(Continued on page 4)

### Cutting Tool Quantity Price Discounts Dropped

Cleveland—Cutting tool manufacturers have readjusted their price structure to eliminate the quantity price feature in effect since last April.

A large Detroit firm was understood to have started the swing, and other major companies began following suit. The switchover was virtually complete by last week, industry sources said.

Cutting tool makers had been champing for a price hike (P.W.,  
(Continued on page 39)

Whoever first said it, came up with an apt description when he reported:

"A good purchasing executive serves as the eyes and ears of his plant."

That is the role a purchasing man fills every day of the year. It is a role that pays off in efficiency and savings for a company; it brings profit and growth to a company.

And it can be the starring role when a company undertakes a modernization program. There is no doubt that American industry needs modernizing. Just to replace production plant and equipment already obsolete will take a \$95-billion expenditure. By 1963 that figure will have risen to \$135 billion.

Those billions are going to be spent through purchasing departments. The pressure will be on the purchasing executive to make sure he buys the best available equipment at the best prices, and he times deliveries to interfere as little as possible with production.

Now is the time for purchasing men to study all the facts on:

What modernization is needed.

The dollar-and-cents justification for re-equipping.

How to spot obsolescence.

How to finance new equipment.

How to lease equipment.

What new equipment is available or will become available?

What can we expect from foreign markets?

PURCHASING WEEK has put the answers altogether for you in a special report that starts on page nine. It is a report that will equip you to become the hub around which modernization that revolve in your plant.

Remember!

Modernize now for growth and profits.

SEE PAGE

9

**Purchasing Week  
SPECIAL  
REPORT**

### Visiting Salesmen Study G.E. Buying

Plainville, Conn.—Sales executives who attended General Electric's purchasing seminar at its plant here Sept. 24 went away wishing other firms would duplicate G.E.'s purchasing promotional effort.

About 100 suppliers and prospective vendors spent an entire day at the G.E. circuit protective devices plant, learning from G.E. executives how purchasing strives to improve quality and performance and still keep prices competitive.

Such benefits require "the combined efforts of an entire team." H. S. Kellam, P. A. at the Plainville plant, commented. "That is why we at General Electric are most anxious that our vendors be members of that team."

The seminar saw G.E. production and purchasing executives explain how vendors could best work with the circuit protective devices department, and how  
(Continued on page 39)

### Inventories Up, So's Business, P.A.'s Tell P.W.

New York—Inventories are reflecting the general expectation that the fourth quarter will close out 1958 with a real bang.

As business activity quickens throughout the country, a trend to inventory rebuilding—in many cases toward year-ago levels—appears cautious but definite. Many firms are still holding the line, but others have hit or expect to surpass former peaks during the fall or by early next year.

These are the trends indicated by purchasing executives participating in PURCHASING WEEK's latest inventory policy poll.

Many said the recent upturn in industrial activity had no effect on their inventory policies. Yet, even more said they were either rebuilding slightly from slump  
(Continued on page 40)

### Washington Predicts Good Fall Business

Washington—The fall business season has barely gotten underway and Washington predicts one of the best on record.

Not only is the economy expected to make up the ground lost in the recession but also to break through to new highs during the all-important fourth quarter.

This is the view President Eisenhower is getting from his chief economic advisers as they prepare to switch signals and set policy in accordance with the altered economic outlook.

As the economy improves,  
(Continued on page 3)

—This Week's—

## Purchasing Perspective

OCT. 6-12

A main reason for taking periodic and many-angled looks at inventory levels and policies is basic and practical.

Results of surveys such as the one just conducted by PURCHASING WEEK (p. 1) can be used as a handy tool for helping plot current economic trends. They are an authoritative, grass roots sampling of current industrial planning, not 100% scientific perhaps, yet nevertheless a useful guide to be used in conjunction with some of the other more numerous, more fancy (but not necessarily more accurate) economic forecast indicators.

It is important to remember that while inventories are tied ever so closely to sales and production, inventory itself does not generate production. Production, sales, and new orders combine to create inventory; and interruptions, spurts, or reversals in any one of those factors can cause inventory levels to do tricks which could trap the unwary with false readings.

The present picture appears clear, however. Inventories, just coming out of a long period of reduction and maintenance at rock bottom levels, are in close harmony with gradually rising production and are reflecting the fact that business now is entering what will be the most vigorous quarter of 1958.

But it still may be necessary to frame some new values for  
(Continued on page 39)







## Washington Predicts Good Autumn Business; New Highs Forecast

(Continued from page 1)  
however, the Eisenhower Administration and the Federal Reserve Board are beginning to administer medicine to combat the inflation that goes hand-in-hand with the renewed business boom.

Already they are tightening the screws on credit, the main anti-inflation weapon. And the Administration has begun to hold down on federal spending in order to reduce the inflation-building federal deficit.

### Tight Money Coming

The Federal Reserve Board has been moving toward a return to tight money policies and can be expected to pursue this even more as business keeps climbing.

The board will lift discount rates again this fall at its members banks, which should act to bring about even tighter credits. Banks, anticipating further federal action, already have been hiking their interest rates.

Washington experts admit they have been caught off guard by the speed with which the economy is bouncing back from recession lows, and the Administration is now moving to catch up with the economic indicators.

Secretary of Commerce Sinclair Weeks reflected Administration thinking on the subject last week. He's no longer worried about recession. Instead, he's warning that increased government spending must be checked lest it hamper recovery.

Weeks adds, however, that the outlook for continued business recovery this fall is the brightest yet this year.

"The most striking economic fact today is the pace of business recovery," he says. "Recovery is developing faster and on a broader scale than most people anticipated" when business started turning upward last spring.

Weeks, who more than any other Administration spokesmen accurately called the turn on the economy early this year, says the pickup promises "good business through the fall and into the Christmas season."

### Experts Ponder Business Climb

Just why business should be climbing so sharply at this time is a wonderment to most of the experts. There is no disputing the fact that the 1957-58 recession was the sharpest of the post-war period. By all the classical rules then, the economy should be continuing to drift downward at least the rest of the year with only a very modest beginning only next spring at the earliest.

But the traditional rules don't seem to apply to the present

situation. The recession also was the briefest of the postwar, and the economy has shown an amazing vigor in the last few months.

This is shown by a look at the gross national product. The leading indicator which wraps up all economic activity by reporting on the total U. S. output of goods and services. G.N.P. hit a low of \$429-billion in the second quarter of this year, on a seasonally adjusted rate. But business snapped back at such a pace dur-

ing the third quarter that G.N.P. ming their stocks during July and rose to a rate of about \$440 billion.

The betting now is that G.N.P. will climb to at least \$450 billion during the autumn quarter, close to \$5 billion above the record high set in third quarter 1957.

What is pushing the economy up at such a rate is easy to see: consumers have been spending at a record rate, government expenditures are on the rise, plant and equipment outlays by businessmen are expected to show a rise, residential construction is booming, and farmers are better off.

Another encouraging note is inventories. Businesses kept trimming August. But at a steadily lessening rate that leads to belief that inventory liquidation will end in the fourth quarter, and businessmen will then begin rebuilding stocks.

### All Is Not Bright

There are however, still a few dark clouds on the horizon. One of these is the continued threat of inflation.

Despite a downturn in meat prices, the consumer price index is expected to keep bobbing up and down a little for the rest of the year before taking off on an-

other upward tilt next year.

And at the wholesale level the government's wholesale price index is expected to keep rising without a break through the rest of the year.

One of the biggest unsolved problems is unemployment. Despite the fact business is rising, unemployment probably will be ranging a million or so above that of previous years until next autumn. Because of the high rate of productivity.

Another uncertain area is automobiles. But even at the worst, sales still are looked to go at least a million higher than last year.

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### Chicago Hardware Firm Building 2 Foundries

North Chicago, Ill.—Chicago Hardware Foundry Co. is erecting an 8,000-sq. ft. aluminum and brass foundry here to meet a growing demand for non-ferrous castings.

The foundry is the third of a three-stage modernization and expansion program which includes an all-new aluminum molding and melting building, and a new \$100,000 facility for receiving, casting, finishing, and shipping of non-ferrous metals.



# Washington Perspective

OCT. 6-12

Two new defense department procurement regulations are in the works, both aimed to lift restrictions on military contractors.

The first, due out shortly, will provide greater protection for defense contractors' proprietary rights to trade secrets. In general, contractors now have severely limited privileges to patent new processes, gadgets, and the like developed while working on defense projects. In addition, a contractor's own trade secrets brought to bear on a big project must frequently be shared with other companies, often competitors, working on the same weapon development program. The new regulation will remove some of the more irksome restrictions.

The second new procurement regulation, due out later in the year, will liberalize the contract costs that a defense producer can charge off as a government-paid expense. This regulation change has been held up by industry criticism that some of the proposed revisions are actually more restrictive rather than liberalized.

An even broader overhaul of military procurement rules may be pushed through next year if Senator Saltonstall (R., Mass.) and other congressional critics of defense buying practices have their way.

Saltonstall introduced a bill before congress adjourned to widen the use of "weapon system management" contracts, granting more powers to prime contractors on selection of subs and other aspects of contract administration.

The bill died in committee, but Saltonstall intends to reintroduce it in January. Meantime, the Pentagon and Senate Armed Services Committee professional experts are studying details in Saltonstall's proposal.

But Saltonstall's plan flies in the face of criticism of Representative Hebert (D., La.), Chairman of the House Armed Services Investigation Subcommittee, that use of weapon system management contracts should be trimmed. Hebert argues that such contracts stifle competition; he's starting Congressional hearings next month on how the practice has worked out.

Congress has taken another swipe at the Pentagon's volume of defense contractors with small business. In a new report on small business participation in the missile program, a Senate subcommittee headed by Senator Smathers (D., Fla.) calls for a revision of policies which bar smaller firms from defense business.

During the first 11 months of fiscal 1958, which ended June 30, small firms were awarded only 3.2% of military research and development prime contracts, the subcommittee reports, down from 4.3% of the dollar volume in the preceding year. In the same period, production prime contract awards were down from 18.9% of the total to only 16.2%.

Says the subcommittee: The Pentagon's guided missile director, William Holaday, "displayed a disappointing lack of appreciation for both contributions made to our defense effort by smaller firms in the past and the substantial role that Congress has determined they shall play in all of our military programs now and in the future."

## Weekly Production Records

|  | Latest Week | Week Ago | Year Ago |
|--|-------------|----------|----------|
| Steel ingot, thous tons                | 1,850       | 1,816*   | 2,115    |
| Autos, units                           | 64,045      | 54,549*  | 62,167   |
| Trucks, units                          | 14,388      | 14,110*  | 9,242    |
| Crude runs, thous bbl, daily aver      | 7,639       | 7,604    | 7,918    |
| Distillate fuel oil, thous bbl         | 12,475      | 12,310   | 12,288   |
| Residual fuel oil, thous bbl           | 7,034       | 6,896    | 7,929    |
| Gasoline, thous bbl                    | 27,758      | 28,010   | 28,423   |
| Petroleum refineries operating rate, % | 82.7        | 82.3     | 88.0     |
| Container board, thous tons            | 158,965     | 165,062  | 157,058  |
| Boxboard, thous tons                   | 149,490     | 146,112  | 144,763  |
| Paper operating rate, %                | 91.2        | 91.5*    | 89.9     |
| Lumber, thous of board ft              | 259,331     | 251,169  | 243,262  |
| Bituminous coal, daily aver thous tons | 1,404       | 1,391    | 1,678    |
| Electric power, million kilowatt hours | 12,342      | 12,240   | 11,697   |
| Eng const awards, mil \$ Eng News-Rec  | 495.7       | 370.7    | 333.4    |

\* Revised.

## New Auto Prices Spark Reprisals

(Continued from page 1)

Cincinnati. "A change of specifications should be considered."

When General Motors, Ford, and Chrysler first announced they planned to discontinue subsidies on fleet sales to states, counties, and municipalities, governmental P.A.'s immediately objected (P.W., July 7, p. 1). It meant an increase of about \$450 a car.

The big three's policy was especially rankling to state and municipal buyers because factory discounts still would be given on fleet sales to federal agencies and large private corporations.

It was learned that General Motors, who led the policy change, had backtracked under consideration as late as last week. But when asked what they planned to do, a G.M. spokesman told PURCHASING WEEK, "this policy was instituted after long and careful consideration, and we have seen no reason to change it."

On the other hand, a spokesman for American motors said he thinks the policy will "put us in a more sensible position for bidding."

A number of governmental buyers say they are now giving ramblers, studebakers, and numerous foreign models more consideration than ever before.

## Inventory Liquidation Slows; Business Better

### It Means About Face For P.A.'s with Inventory Build-up-Ahead

Washington—Inventory liquidation is slowly grinding to a halt in line with the improving business outlook. That's the major finding of a new government report on factory stocks, sales, and new orders.

For purchasing executives the ending of the inventory liquidation phase has some important business implications.

It means the country will soon be entering another period of stock accumulation. Many purchasing men are already preparing for this stage (p. 1).

Actually the increased purchases you will be called upon to make in the coming months will be stemming from two sources: boosted production schedules and the need to maintain normal days' supply of stocks on hand.

This second source deserves some further comment. Say, for example, you normally maintain a 30-day supply. If your production schedule suddenly doubles, then you also have to double your stocks on hand if you're to maintain your normal 30-day supply.

Days' supply (or the "inventory-sales ratio" as some economists like to call it) is important to watch for another reason. It makes an excellent barometer of future inventory trends.

It predicted and, in fact, accelerated the inventory decline early this year. And, if latest readings prove accurate, it should help bring on the coming stock buildup.

The chart above tells the story. In early 1958 sales were falling more rapidly than inventories. Result: this key ratio was rising.

In other words, purchasing executives were cutting inventory



and finding their days' supply still rising because sales were falling even faster. It in turn led to more stock cuts.

The turning point was reached in March when ratio hit a high point for both soft goods and hard goods. After that inventory cuts were made while sales were rising and ratio began to decline.

At latest reading further stock cuts have brought it down close to average 1957 levels. And it can't fall much lower without pushing days' supply down below normal operating levels, a risk few firms are willing to take.

So stocks will soon have to be increased, to match coming sales boosts, if ratio is to be maintained at normal levels.

And if the current trend is any indication, this sales boost will be pretty substantial. In the past five months alone, factory shipments have climbed \$1.5 billion.

Even more encouraging most of the increase has been in depressed hard goods lines. As late as May, hard good sales were run-

ning \$800 million below latest reported levels.

Moreover, this current hard goods total (August) was pulled down by low auto shipments. With new models already in dealer showrooms, figures should be a lot better in October and November.

Further indication of continued sales rise comes from factory reports on incoming business.

Latest government figures show a rise of almost \$1 billion in August. True, this is the usual seasonal pattern for new orders, but it's welcome news.

But even on an adjusted basis there's a note of optimism in new bookings. Without erratic defense contracts given to the aircraft industry, new orders also rose on an adjusted basis.

### Japanese Study Trade

Washington — A Japanese trade mission is touring the U. S. this month to study American market trends and reactions.

## Purchasing Week

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- ... Easier to maintain
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- ... Provides better optical control
- ... Has exclusive "ribbon" base welded on inside





## OPENING THE DOOR TO NEW HORIZONS OF GREATER POWER LOADING AND MUCH HIGHER LIGHT OUTPUT

### BREAKING THE HEAT BARRIER

After years of painstaking research, Sylvania engineers have solved the problem of getting more light per foot from fluorescent lamps.

Up to now the limiting factors included high temperature and the consequent high mercury vapor pressure.

With the new design concept used in Sylvania's VHO lamp, the heat and pressure barriers have been broken.

### A NEW HIGH IN LIGHT OUTPUT

The Sylvania VHO lamp goes far beyond any previous achievement in high intensity fluorescent lamp sources.

This development opens the door to new horizons of greater power loading and much higher light output.

Four superior technical characteristics were combined in the VHO lamp to produce a source that more than doubles the output of previous standard four foot Rapid Start Lamps — a real beginning, with the promise of better things to come.

### FIXTURES FOR THE VHO

The VHO lamp fits many fixture types now available on the market by Sylvania and other leading fixture manufacturers.

These fixtures include a special rapid start ballast (1.4 amperes) and sockets to take the new recessed type of base used on all High Output fluorescent lamps.

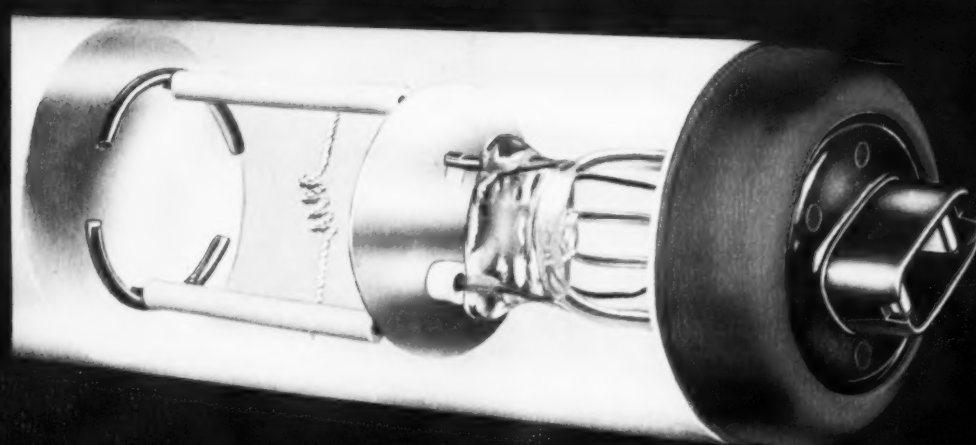
Fixtures for VHO lamps must have provision for ventilation to dissipate the higher heat levels produced by the lamp and ballast combination.

### COLOR

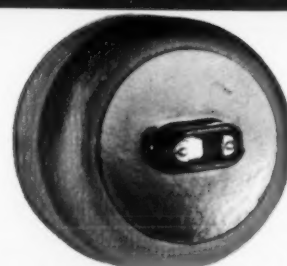
At present, the VHO lamps are available only in Cool White color designation. The extraordinary high light output actually is about midway between fluorescent white and cool white, combining the color benefits of both standard types. Observers have indicated a marked preference for the color and the visual impression is similar to that from cool white standard lamps.



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| Nominal Watts | Bulb     | Base                  | Description | Lamp Ordering Abbreviation | List Price | Std. Pkg. Quan. | Hours Life | Approx. Lumens |
|---------------|----------|-----------------------|-------------|----------------------------|------------|-----------------|------------|----------------|
| 100           | T-12 48" | Recessed Dbl. Contact | Cool White  | F48T12/CW/VHO              | \$4.50     | 24              | 5000*      | 6200           |
| 150           | T-12 72" | Recessed Dbl. Contact | Cool White  | F72T12/CW/VHO              | \$5.00     | 12              | 5000*      | 9400           |
| 200           | T-12 96" | Recessed Dbl. Contact | Cool White  | F96T12/CW/VHO              | \$5.50     | 12              | 5000*      | 13250          |

NOTE: The light and life ratings of Fluorescent Lamps are based on 3-Hour burning cycles under specified conditions and with ballasts meeting American Standards Association specifications.

\*Estimated Economic Life.



### STREET LIGHTING

Greater area can be lighted with a minimum number of lighting units. Fixtures should be less cumbersome for today's modern high poles.

Permits choice of type to fit illumination levels required.

Unit lighting cost is low and color is right.



### HIGH BAY INDUSTRIAL LIGHTING

For the first time, fluorescent lamps can economically compete with other lighting sources for high bay installations, because VHO lamps will produce the higher level illumination required.

#### Medium Bay Industrial

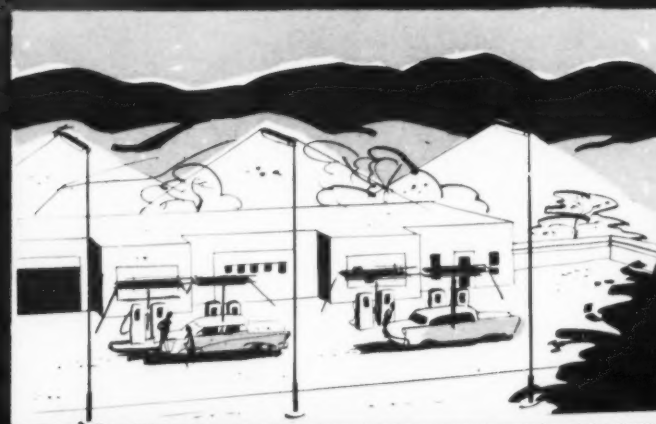
Even in medium bay lighting, VHO may be chosen because of the greater light output per fixture, with resulting simplification of lighting layout.



### FLOODLIGHTING, PARKING AREAS AND CAR LOTS

A "natural" for fluorescent floodlighting of Parking Areas and Car Lots, as well as for Gasoline Service Stations — and for outdoor industrial storage areas, — for both protective and work lighting.

Especially suited for the streamlined fixtures now appearing commercially for building fronts and outdoor advertising.



## FOR INDOOR and OUTDOOR APPLICATIONS

The novel design features of the VHO lamps enables them to be used either indoors or outdoors, within the normal range of temperature common to well-designed luminaires.

As the lamp brightness increases, and with it the light output per unit length of lamp, it becomes easier for the lighting engineer to provide high level illumination at

good efficiency. For example, using today's ordinary lamps, it might be necessary to use four lamps, or lamps of large diameter in a wide and cumbersome fixture. With the VHO, however, only two lamps would be needed, and the fixture can be of conventional size and have a good "utilization factor". This will apply to both indoor and outdoor service.



# PLAN 59 *Modernize now for growth and profits*

How modern is American industry?  
Economics of modernization  
Purchasing's part in modernization  
Purchasing's standards for modernization  
Old products' role in modernization  
Materials and products needed for modernization  
Experts' opinions on modernization  
What purchasing can do about obsolescence  
Purchasing men speak of modernization  
Financing for modernization  
Leasing for modernization  
Modernization story as seen by others  
Russian, European industries set fast modernization pace  
Modernization in perspective



## How Modern Is American Industry?

*A Report by the McGraw-Hill Department of Economics*

The U.S.A. is starting a new period of economic growth, as we leave behind the recession of 1958. This new period presents a challenge to the nation, to the business community and above all to the individual company—to grow at a profit.

By now it is clear that growth is the normal way of life for the U.S. economy. Since 1947, our national product has been growing at a rate of 3.7% a year. And no recession, even the latest and most publicized, has interrupted the trend for long. Now the economy is growing again.

But the conditions of growth are far different from those that prevailed in the years 1947 to 1957.

Today growth in the economy does not mean pressure on capacity, for most industrial firms. It does not mean easy profits. Rather, this is growth under highly competitive conditions, with profits dependent on a firm's ability to hold down costs. Is our plant and equipment modern enough to do the job?

### A New Survey

To find the answers to this question, the McGraw-Hill De-

partment of Economics has just completed a special survey of business needs for modernization. The survey shows that it would cost \$95 billion to replace today's obsolete equipment. And this is a priority job, if business is to get costs down for the years ahead.

This tremendous need for modernization presents a challenge to the U.S.A. as a nation. The Communist powers are making a strong and disciplined effort to demonstrate that they can out-

produce us—that they can “plow us under” in a contest of industrial strength.

It is a challenge to American business. Our people expect a continuously rising standard of living. Our workers expect wage increases. And often their demands mean price inflation—unless we can achieve sharp gains in output. The public demands higher national income without inflation. This is the challenge to business as a whole.

It is a challenge to the indi-

vidual firm. Growth in the economy no longer means an automatic rise in sales and profits for any particular company. There are no shortages; industrial capacity is ample. So to participate in growth, the individual firm must achieve better quality or lower costs than its competitors. Otherwise, there will be no profit in growth and no success story for the company.

Is business prepared today for these challenges? The answer, from our study, is clearly “No”. The production and distribution facilities of the U.S.A. are not efficient enough to ensure our continuing superiority over the Communist world, to match every wage increase with higher productivity, to do business in a competitive economy at satisfactory profit to the individual firm.

This statement sounds shocking at a time when much industrial capacity is idle and the recession just behind us is being blamed on a surplus of capital goods. But the facts speak for themselves. Here is the record on the past decade of investment in new plant and equipment, and here is our new study of the job that still remains to be done.

### Decade of Expansion

Since 1947, private business in the U.S.A. has invested \$291 billion in new plant and equipment. Our manufacturing capacity has increased about 80%; electric power capacity, 145%; capacity for basic raw materials, by 55%. The distribution and service industries have increased floor space by roughly 50% in the decade. In 1957 alone, business spent \$37 billion on new plants and equipment—more than the combined expenditure in all of Western Europe plus Canada.

But all of this expenditure has not made our facilities as modern as supposed, or as modern as we need. Of the \$291 billion invested by business since 1947, roughly \$157 billion has been for expansion of capacity. Only \$134 billion has been spent to replace old facilities with better, more modern equipment. And in recent years, this investment has not purchased as much new equipment as the dollar figures suggest, because prices have climbed.

(Continued on page 10)

### THE MODERNIZATION JOB AHEAD: \$95 BILLION

The McGraw-Hill Department of Economics asked a wide sample of manufacturing companies, and experts in other industries, “What would be the cost to replace all obsolete facilities with the best new plant and equipment?” Here is a summary of the estimates. (Details on next page.)

|                                      | Billions |
|--------------------------------------|----------|
| Manufacturing and Mining .....       | \$34.3   |
| Petroleum Industry .....             | 5.3      |
| Transportation and Communications .. | 18.4     |
| Electric and Gas Utilities .....     | 12.0     |
| Finance, Trade and Services .....    | 25.0     |

Total: All Business . . . \$95.0



## The McGraw-Hill Survey of Modernization Needs

Conducted by the McGraw-Hill  
Department of Economics in August, 1958

| INDUSTRY:  | AGE OF MANUFACTURING CAPACITY<br>Percent Installed |                        |                        | COST TO REPLACE OBSOLETE FACILITIES<br>Millions of \$ |
|--|--|------------------------|------------------------|---|
|  | Prior to Dec. 1945                                 | Dec. 1945 to Dec. 1950 | Dec. 1950 to Dec. 1957 |   |
| Iron and Steel   | 47%  | 16%                    | 37%                    | 2,855   |
| Nonferrous Metals  | 47   | 13                     | 40                     | 1,022   |
| Machinery  | 41   | 21                     | 38                     | 3,224   |
| Electrical Machinery   | 34   | 18                     | 48                     | 1,917   |
| Autos, Trucks and Parts  | 42   | 11                     | 47                     | 2,204   |
| Transportation Equipment (aircraft, ships, railroad equipment) | 59   | 9                      | 32                     | 854   |
| Other Metalworking   | 54   | 17                     | 29                     | 2,351   |
| Chemicals  | 30   | 23                     | 47                     | 3,070   |
| Paper and Pulp   | 49   | 17                     | 34                     | 2,655   |
| Rubber   | 46   | 9                      | 45                     | 600   |
| Stone, Clay and Glass  | 46   | 20                     | 34                     | 1,840   |
| Petroleum Refining   | 45   | 26                     | 29                     | 1,499   |
| Food and Beverages   | 58   | 19                     | 23                     | 3,443   |
| Textiles   | 59   | 18                     | 23                     | 1,001   |
| Misc. Manufacturing  | 51   | 21                     | 28                     | 6,236   |
| ALL MANUFACTURING <sup>1</sup>                                 | 48   | 19                     | 33                     | 34,771  |

<sup>1</sup> Includes petroleum refinery companies listed under "petroleum industry" in previous table.

## Modernization Pays

Profits on modernization—like all business profits—have come down since 1955. However, modernization, in contrast to new capacity, still offers a relatively quick return on investment. Here are companies' answers to the question: "In cases where you are actually replacing old facilities with new plant and equipment in 1958—how soon do you expect these replacement expenditures to pay off?"

| INDUSTRY:  | PERCENT OF COMPANIES ANSWERING |             |             |                 |
|--|--------------------------------|-------------|-------------|-----------------|
|  | 1 to 2 yrs.                    | 3 to 5 yrs. | 6 to 8 yrs. | 9 yrs. and over |
| Iron and Steel   | 11%                            | 56%         | 11%         | 22%             |
| Nonferrous Metals  | 29                             | 71          | 0           | 0               |
| Machinery  | 12                             | 56          | 12          | 20              |
| Electrical Machinery   | 29                             | 57          | 7           | 7               |
| Autos, Trucks and Parts  | 40                             | 60          | 0           | 0               |
| Transportation Equipment (aircraft, ships, railroad equipment) | 7                              | 53          | 20          | 20              |
| Other Metalworking   | 38                             | 33          | 10          | 19              |
| Chemicals  | 10                             | 53          | 21          | 16              |
| Paper and Pulp   | 22                             | 22          | 22          | 34              |
| Rubber   | 33                             | 33          | 34          | 0               |
| Stone, Clay and Glass  | 0                              | 57          | 36          | 7               |
| Petroleum Refining   | 16                             | 50          | 17          | 17              |
| Food and Beverages   | 16                             | 44          | 12          | 28              |
| Textiles   | 37                             | 47          | 5           | 11              |
| Misc. Manufacturing  | 9                              | 52          | 13          | 26              |
| ALL MANUFACTURING *  | 18                             | 50          | 14          | 18              |

\* NOTE: Answers to a similar question, in a 1955 McGraw-Hill survey, were as follows: 1-2 years: 17%, 3-5 years: 64%, 6-8 years: 11%, 9 years, or more: 8%.



Our postwar capital investment has repaired the worst of the obsolescence accumulated during the depression and war years. But huge amounts of old equipment are still in use, as shown by the table above. This is based on a survey of the age of manufacturing capacity in several hundred companies, representing all of the major manufacturing industries. Almost 50% of our present capacity was installed before or during World War II. More than 65% was installed before Korea. Expert studies of the major non-manufacturing industries show that the age of equipment, in those industries, is even greater.

Thus, of all business plant and equipment, less than one-third is modern in the sense of "new" since 1950; two-thirds is pre-Korea.

This over-all figure is confirmed by a check on specific industries:

- Nearly two-thirds of our metal-working equipment was installed over 10 years ago, according to preliminary results of American Machinist's 1958 census.

- Over 65% of the freight cars on our railroads are more than 10 years old.

- Less than half the capacity to process chemicals, rubber or petroleum is new since 1950—a period that has seen rapid development in such equipment as automatic controls for these process industries.

These examples take on a dollars-and-cents meaning when we recognize that the latest machine tools are about 40% more productive than 1948 models, and that a combination of new freight cars and modern freight yard equipment can reduce operating cost up to 50%.

New instruments, that automatically direct the flow of a chemical (or other raw material) process, can often reduce processing costs enough to pay back the cost of the instruments in one year. These savings cannot be made in older plants. By using obsolete facilities, our industries accept a waste in labor and materials that totals many billions of dollars per year.

### Why Productivity Must Rise

The U.S.A. can ill afford this waste. In the economic struggle between the Free World and Communist World, our margin of superiority depends on the efficiency of our productive facilities.

For the growth of our own economy, we shall need a sharp rise in productive efficiency. During the next ten years, American business must provide the goods and services required for a population that will increase by 32 million. And the increased population will expect higher living standards. Furthermore, the population in ten years will include a higher proportion of dependent persons—children and retired people—and a smaller proportion of working age men. Thus, with a relatively smaller labor force, industry must provide more goods for more consumers.

At the same time, industry must strive to hold the line against

rising costs. In an economy with a tight labor supply, we cannot count on restraint in wage demands, however desirable such a development might be. In the past ten years, hourly wage rates have increased over 5% per year, nearly twice as fast as output per manhour. And this disparity may well continue—causing still more inflation—unless we make more rapid gain in productivity.

We can make these rapid gains—if industry goes all out to modernize its equipment. Output per manhour (in manufacturing) has increased only 2.5% per year since 1951. But this compares with gains of 4% a year in 1947-1950, and over 5% in the 1920s. Today the machines and techniques are available for us to equal, or exceed, these records—to raise output per manhour at least 5% per year. This is a job than can, and indeed must be done, to assure growth in the economy without inflation.

### The Job Ahead

The dimensions of this opportunity are shown by the table on the previous page. In its survey on the need for modernization, the McGraw-Hill Department of Economics asked a wide sample of manufacturing companies how much it would cost to replace all their out-dated facilities with the best new equipment available. The Department also interviewed experts in each of the non-manufacturing industries, to find answers to this question. The answers add up to a staggering bill for new plant and equipment.

Modernization of over-age facilities—replacing only what is really obsolete, by today's production standards—would require a total capital investment of \$95

billion, or nearly \$20 billion per year for the next 5 years.

Furthermore, new production techniques will soon make today's plants obsolete, in many cases. Thus, to keep pace with technical advance from 1958 on, will require continuing expenditures of \$8 to \$10 billion per year for modernization.<sup>1</sup>

The total expenditure to wipe out the backlog of obsolete facilities, and keep up with continuing technical advance between now and 1963, would be at least \$135 billion.

The U.S.A. has never spent such a sum on the modernization of industrial facilities. Capital expenditures of boom dimension have, in the past, been associated only with the urgent expansion of capacity. Some forecasters are now saying that because industrial capacity is adequate, the next few years will be a period of low capital investment. The figures above make clear that this would be a national calamity. The opportunity is there—and the challenge—to invest record amounts of capital in the modernization of plant and equipment.

### A National Problem

This also is a challenge to the U.S.A. as a nation. For 100 years, this nation has been looked to as the model of economic development by the rest of the world. For the first time, we face a serious challenge by another nation and another economic system that claims to be better. In a carefully documented 111

<sup>1</sup> This estimate is based on technical developments reported by McGraw-Hill editors and current price trends for capital goods. It is consistent with the plans for modernization expenditures in 1958-61 reported by companies in a McGraw-Hill survey conducted in April, 1958.

page study released in May, the U.S. State Department declared that "the most serious threat" to the U.S.A. today is the drive for economic supremacy by the Soviet Union.<sup>2</sup> Although a much smaller nation industrially than the U.S.A., the U.S.S.R. is today increasing its national output at a rate of 7% per year and its output per manhour by 4% per year.

The U.S.A. does not have to match these specific figures, which represent the results of forced labor in a country just starting to develop industrially. In the contest to win uncommitted nations, the statistics are not likely to be quoted exactly, in any case. But our over-all growth in national output and living standards must be so impressive as to leave no question of superiority. Our factories must be showplaces of modernization to the foreign visitor that will leave him unable to say "I saw much better" in Britain, or West Germany, or Russia.

This is the challenge to the nation—a political challenge to be sure. But it coincides with the challenge to the business community and the individual firm. And the way to meet it is the same: by thorough and rapid modernization of our plant and equipment—not by the slow and steady pace of recent years, but at an accelerated rate that reflects the greater pressure for output at lower cost.

### Obstacles To Be Overcome

We must face up to the fact that real obstacles—both technical and financial—stand in the

<sup>2</sup> "The Sino-Soviet Economic Offensive in the Less Developed Countries"—U.S. Department of State, May, 1958.



way of faster modernization. Some companies do not have the technical "know-how" required for the latest production techniques. Many more lack the financial resources. How can we overcome such obstacles, and speed up the replacement of old facilities?

In the course of its study, the Department of Economics obtained comments on these questions from many executives. One of the problems, as we noted above, has been the urgent pressure to expand capacity during most of the postwar period. In giving their attention to this problem, companies have sometimes overlooked the chance to modernize older plants.

In some cases, equipment has been kept in place because it was satisfactory, and the users were not aware of still newer designs. Some equipment users believe that equipment makers are not sufficiently aggressive in designing and demonstrating new models.

The biggest obstacle—and one that presents a persistent problem—is the shortage of funds in many companies that need and want to modernize. For all corporations, the cash flow from retained earnings and depreciation has increased by more than \$5 billion from 1953 to 1958. But a number of key industries have failed to keep pace with the general trend. These include some of the areas where the need for modernization is most urgent: the railroads, large sections of the textile industry, some mining industries and many small to medium-size companies in manufacturing generally. The problem of these industries and companies has grown more acute in 1958—since their profits have declined much more than the average for all business.

Any plan to step up the pace of modernization generally must deal with the special situation in these problem areas. Depressed industries and companies need outside help, if they are to modernize. Such help would include a stronger flow of technical information and advice (and occasionally, venture capital) from the more prosperous, inventive industries—as well as advice from equipment suppliers and distributors, industrial publishers and consultants. There is also a public responsibility to help in the problem areas—not with handouts of government money, but with technical assistance and help in finding private capital (like the efforts now being pursued by the Small Business Administration).

Certainly we should lose no time in reforming those provisions of the federal tax laws that now impede investment in modern equipment by hard-pressed firms—especially the outmoded and unfair restrictions on rates of depreciation for tax purposes. At present, the tax regulations require that depreciation be computed over relatively long periods of "useful life" for most types of equipment. And this is a primary reason for the lag in modernization. Machinery gener-

ally becomes obsolete long before the expiration of its "useful life" as specified in tax regulations. But it is difficult for companies—especially small companies—to set aside cash for rapid replacement, unless the full amount to be set aside is exempt from income tax. Canada and most European nations allow more rapid depreciation for tax purposes than does the United States.

A combination of self-help with technical help, and a fair break from the tax laws, would do much to reverse the spreading tide of obsolescence in depressed indus-

tries, and in many small companies.

#### PLAN '59

It is this combination that McGraw-Hill advocates as "PLAN '59", to help business modernize now for growth and profits. This is what it will take to make a start in 1959 on the \$95 billion job of modernization, disclosed by the study we have just completed:

1. A better flow of technical information on where and how to modernize business plants and equipment.

2. Careful review by the indi-

vidual company of its own opportunities to modernize at a profit—then action to replace obsolete facilities.

3. Reform of the tax laws, to allow more realistic deductions for depreciation, and permit more companies to finance adequate modernization programs from this source of funds.

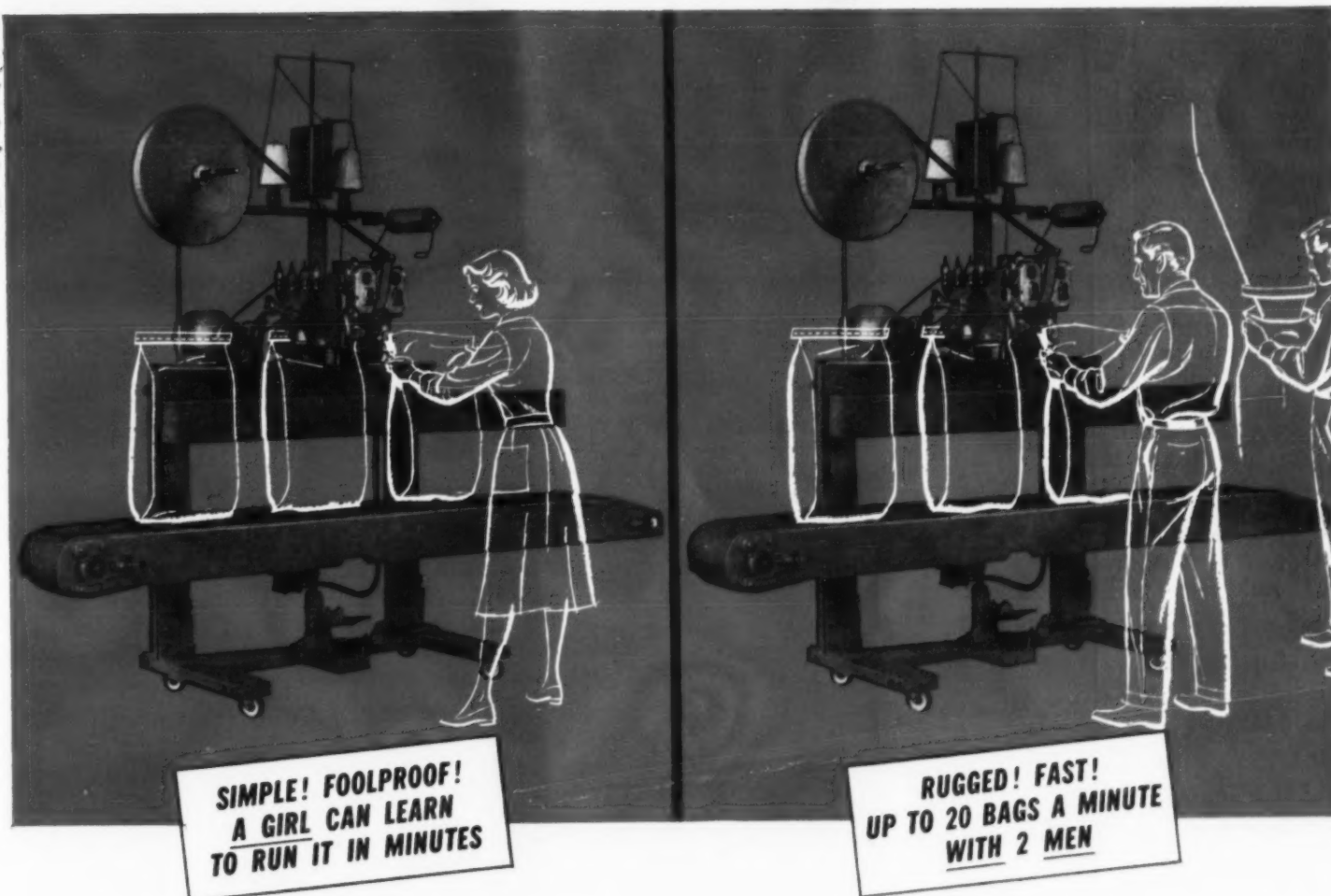
Much of this program is already underway. The 34 McGraw-Hill publications, and many suppliers and distributors of industrial equipment, have stepped up their information programs to start the modernization drive. Preliminary plans of man-

ufacturing companies show a strong emphasis on capital spending for this purpose. In August, Congress passed a bill providing limited tax relief for small business.

But the real task of modernization still lies ahead. It is the greatest challenge, and the greatest opportunity, confronting American business as we move forward into 1959.



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# Understanding of Economics Comes

As a purchasing man you'll probably be hearing a lot about the "economics of modernization" in the next few months. And the reasons aren't too hard to find:

- **It's needed.** The table on page 10 certainly indicates a need for re-equipping many of the nation's factories.
- **It makes good business sense.** Up-to-date equipment increases efficiency and lowers costs, and makes better products. In today's competitive markets a modernization program that can be translated into dollars-and-cents savings can often spell the difference between success and failure.
- **From a price viewpoint, it's timely.** Buying today—instead of postponing—has some real concrete advantages. Prices on most capital goods lines are relatively low. If history is any criterion, inflationary forces are sure to boost tags in the coming years.
- **Deliverywise and servicewise now is a good time to buy.** In today's buyers' markets you get a lot more individual supplier attention. Deliveries are as speedy as they'll ever be. And chances are your vendor's engineering and consulting services have never been better.
- **Modernization has proved itself.** It's important to remember that all this talk about its advantages is more than just economic theory. Actual surveys and case histories bear out the advantages. Firms that have pursued an active capital equipment policy have almost invariably racked up healthy gains—both saleswise and profitwise.

## I—Role of Purchasing

For purchasing men in general this increased interest in capital goods raises some important questions:

- What should the role of purchasing be in a modernization program?
- Why does modernization pay off?
- What specific procedures can purchasing adopt to help develop a workable program?

In answering the first question, it's important to remember one factor: The increasing accent on modernization over the next few months will be turning the management spotlight more and more on your own area of operations. For in the procurement of new equipment, the purchasing department can and is expected to play a substantial role.

Some purchasing departments have actually gone further than just playing an important role. Some have taken the initiative—by planning, administering, and evaluating a modernization program for their entire firm.

An excellent example of how purchasing can play the key role in modernization is provided by the Standard Pressed Steel Co., Jenkintown, Pa. (see p. 14). The company, manufacturer of a wide variety of fabricated steel products, has long recognized the value of keeping plant up to date.

## Forward Looking Firm

S.P.S. is actually just one of many firms where forward-look-

ing purchasing men have been able to serve a real management-type function for their firms.

A recent PURCHASING WEEK survey indicates how involved most purchasing executives are with problems of capital equipment and modernization.

Some 73% of all P.A.'s interviewed stated they were involved to some extent in selecting capital equipment.

Another significant finding to ponder: Only 9% of those interviewed stated they had primary

responsibility for such procurement. It indicates the wide fertile area that still remains to be tapped by the alert purchasing executive. So there's a lot more that can and should be done by the purchasing department.

## II—It Always Pays Off

But no matter to what extent the P.A. is involved, this much is clear: Modernization makes sense. Economies of keeping a factory modern always pay off. This is borne out even more

vividly by a recent survey conducted by Dunn and Bradstreet. It showed that companies with the least obsolescence were faring best.

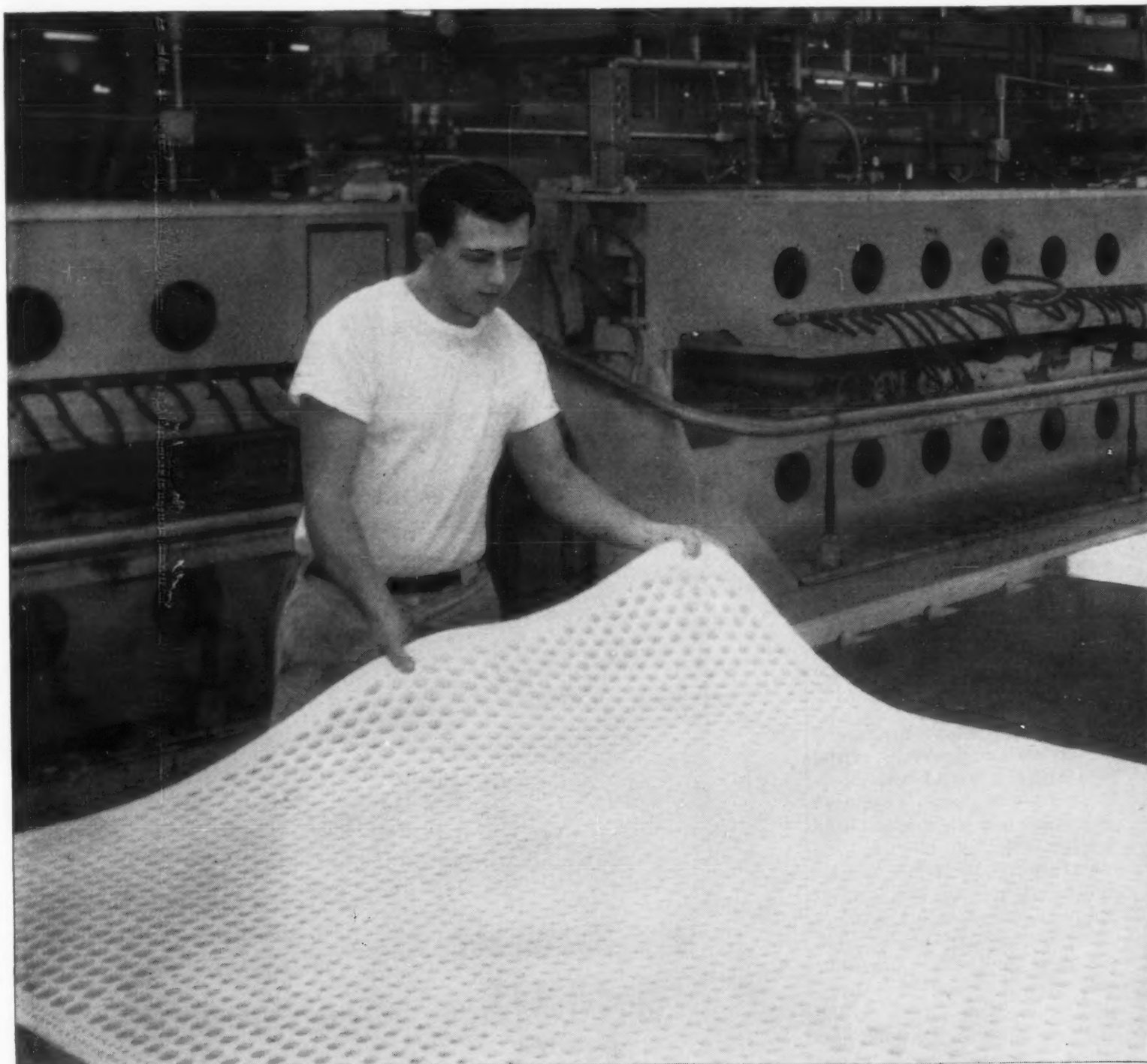
The findings, for example, showed that those firms reporting only 1% obsolescence in equipment were operating at an amazing 95% of capacity.

On the other hand, the group of companies with highest rate of obsolescence were only operating 65% of their peak of the past two years.

Many companies in this latter group admitted that modernization would be the best medicine their firm could use. Some said they could sell the increased output of the improved facilities without too much trouble.

If nothing else this survey points up the connection of up-to-date equipment and overall sales level.

Actually, this is no new and startling discovery. The nation's giants—U.S. Steel, General Electric, etc., have always recognized



## 125 B. F. Goodrich presses, using Gulf Harmony Oil, mould GULF MAKES THINGS

"We'd be up to our necks in expensive scrap if we used an inferior hydraulic oil," says Alex Sandomirsky, chief engineer at the B. F. Goodrich Sponge Products Division in Shelton, Connecticut.

The plant turns out highest quality B. F. Goodrich Texfoam mattresses, pillows, auto seat and furniture cushions around the clock. It has the world's largest installation of rubber moulding presses, 125 of them on one central, 700-gallon hydraulic system. The oil in this system has to be reliable, for if one press went out all would have to close down.

B. F. Goodrich uses Gulf Harmony Oil 53 as the power

medium, serving these presses 24 hours a day, 6 days a week . . . tough service for any hydraulic oil. Gulf Harmony stands up perfectly in this operation, to the complete satisfaction of B. F. Goodrich. Production results are excellent.

### Here's why Gulf Harmony Oil stands up so well, so long

New Gulf Harmony has outstanding oxidation resistance. It assures longer life, freedom from harmful sludge deposits. An anti-corrosion additive protects against rust. A patented anti-foam agent eliminates objection-



# Before Modernization Plans

the economies of modernization. And it shows. Take U.S. Steel for example. In the first half when most mills were just about making both ends meet, or even falling into the red, U. S. Steel showed a healthy 8.5% return on sales.

Much of this has to be attributed to sheer efficiency. Since World War II, the company has emphasized modernization along with expansion. Some 10 million tons of production capacity in the postwar period alone are due

to improved equipment and methods.

U. S. Steel actually has some 15% fewer blast furnaces than in 1929, yet its blast furnace capacity is up by 7 million tons.

And this program is continuing. On June 30, U. S. Steel had \$770 million in projects authorized. That was \$100 million more than on Jan. 1 when business was a lot better.

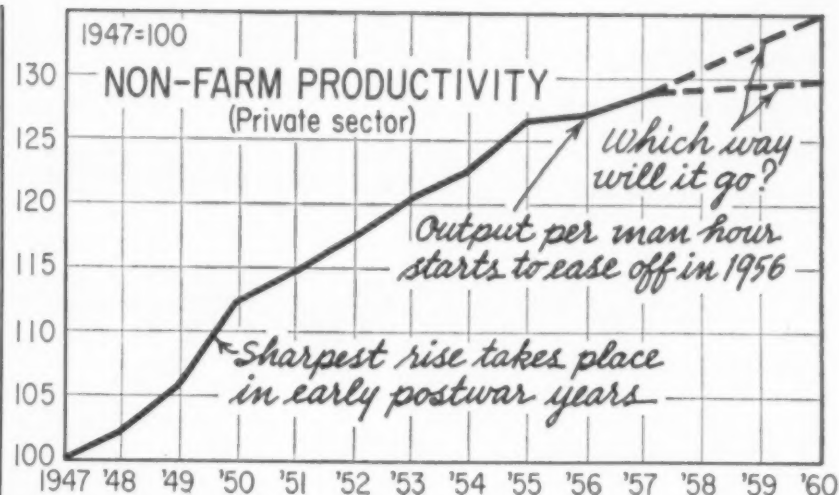
Moreover, to pay off, modernization must be a continuing affair. In this day of rapid techni-

cal advances nothing remains "brand new" very long.

Ford's automated engine plant in Cleveland provides a good illustration of this. It opened in 1951, only 7 years ago, and is already being modernized.

It all adds up to the fact that American industry can't afford to continue operating with current tools. The price of not re-equipping is just too high.

Wastage through faulty equipment in many lines is appalling. The American Society of Tool



Engineers, for example, estimates that over 15 million ton of metal

are converted into chips every year. The cost is estimated at an amazing \$10 billion.

But this is only part of the bill you pay for obsolescence. Obsolete, inefficient machines, that take longer to produce a unit, keep down your productivity (output per man hour), and keep up your unit labor costs.

Some indications that output per man hour may have been slowing down in current years comes from a new government report.

Summarized in the chart, it shows how productivity has fared in the postwar period.

Note from chart that productivity during the past two years has gone up an average of less than 1% per year. If nothing else, the current slowdown in productivity indicates American industry needs to step up its purchases of equipment.

## III—Making the Purchasing Decision

For you as a purchasing executive it means expanded opportunity to get into the management phase of operations—via making decisions of what tools are needed, what tools should be purchased now, and next year.

At other times the problem may be: Which machines to replace. Or if two or more models new are available, which one do you choose.

Here's where the "economics of modernization" leave the realm of theory and speculation and descend into the area of "shirt-sleeve" calculations.

The people who make these calculations and the ultimate decisions have a lot of responsibility. A wrong decision in this area can really hurt.

Just how do you go about reaching the right decisions? The recipe is varied. No two firms use the exact same procedure. Usually it consists in a good part of knowledge about your firm and its needs—mixed with some good formula which indicates whether it "pays" to buy.

There's no hard and fast rules to follow, but there are several aids available.

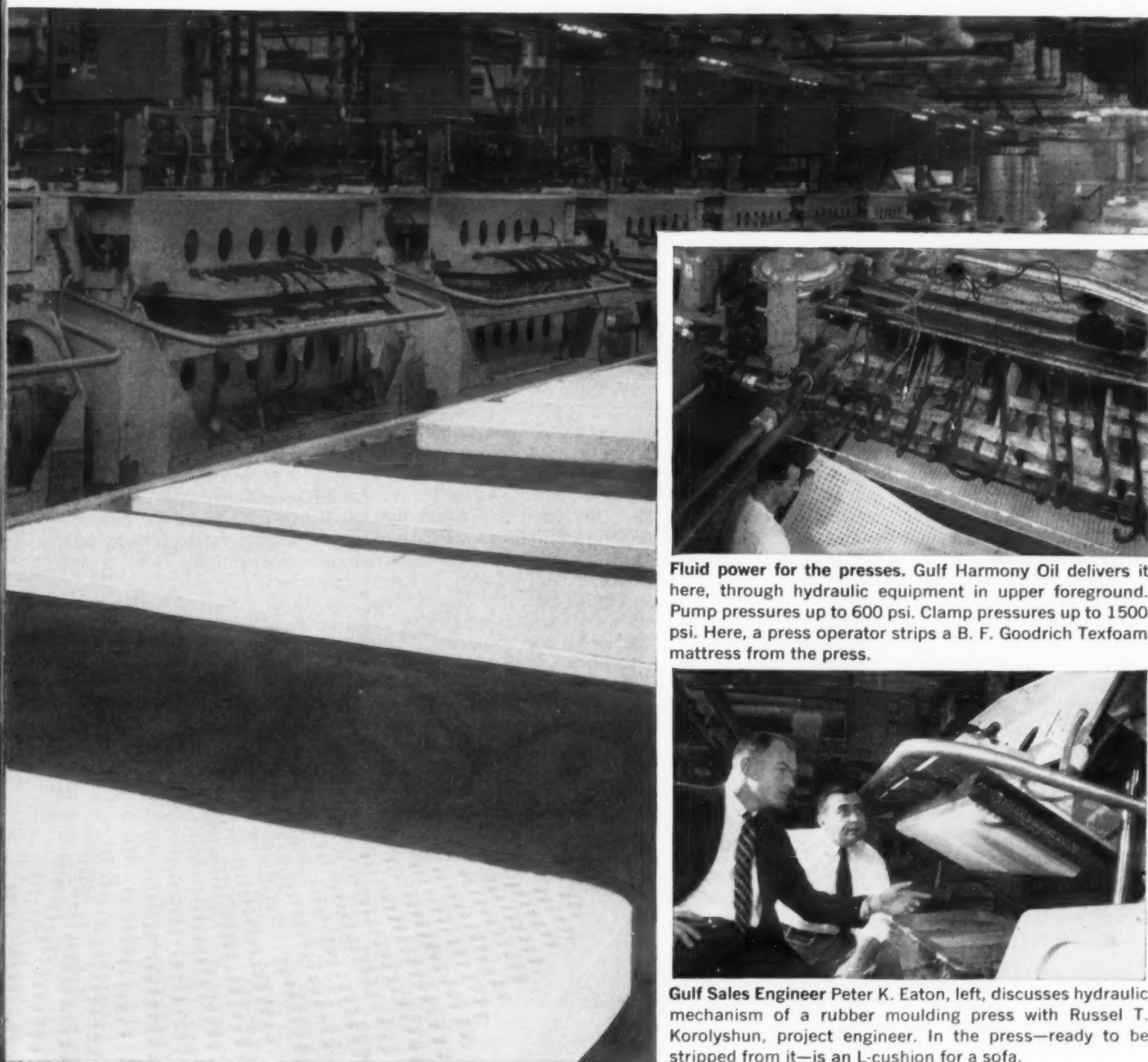
Most widely used is the Machinery and Allied Products Institute's formula which translates production operations on your old and proposed machines into dollars-and-cents language.

The MAPI formula—and several similar versions used by a wide cross-section of industry—have several advantages:

- They translate all pertinent factors into dollars-and-cents or into accounting terminology. This makes it easier to sell to top-management, too.

- When you use a formula, you're less likely to gloss over some important factor. Formulas which have stood the test of time

(Continued on page 14)



Fluid power for the presses. Gulf Harmony Oil delivers it here, through hydraulic equipment in upper foreground. Pump pressures up to 600 psi. Clamp pressures up to 1500 psi. Here, a press operator strips a B. F. Goodrich Texfoam mattress from the press.



Gulf Sales Engineer Peter K. Eaton, left, discusses hydraulic mechanism of a rubber moulding press with Russel T. Korolyshun, project engineer. In the press—ready to be stripped from it—is an L-cushion for a sofa.

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PW-5213



"Certain pieces of equipment may still be desirable even when you can't translate this desirability into a 'paper advantage.'"

(Continued from page 13)  
usually demand orderly consideration of all pertinent factors bearing on the replacement question. It assures consideration of such factors as future sales, future costs, cost of procurement, life of machine, etc.

• Finally, calculations presented as formulas carry an air of authenticity about them. A formula is usually an eye-catcher. It shows how purchasing is aware of and using the latest scientific techniques—something for which top-management is always on the lookout.

If you're interested in how these formulas work, one of the best sources is "Business Investment Policy." It contains a thorough discussion of investment formulas—theory and practice.

It costs \$10 and may be obtained by writing to the Machinery and Allied Products Institute, Ring Building, 1200 18th Street N.W., Washington 6, D.C.

A word of caution: Replacement-formula analysis should never be used by itself. Knowledge of business and the intangible "feel of the market" are all important assets in any capital buying decision.

Moreover, the formulas themselves do have certain limitations:

- The results are only as good as the data put into them.
- They give no consideration to your firm's current financial position, and its ability to buy new equipment.
- Certain pieces of equipment may still be desirable even when you can't translate this desirability into a "paper advantage."

Basically then, each firm, presents its own unique problems which must be considered. However, one general rule might help in your evaluation of whether you should buy or not.

It was made several years ago (1953) by the Vance Committee, a government advisory group on production equipment. It states that a firm should spend 5% of the total valuation of its equipment (in current dollars) for modernization.

Actually the estimate is now regarded as over conservative. A 15% figure is more meaningful in these times of rapid obsolescence and rising capital equipment prices.

In one sense, the large the percentage the more it helps the economy as well as your own firm. And there's why:

• Take, for example, a consumer goods company that decides to reequip. That means spending a substantial amount on new machine tools.

• The machine tool company—with a host of new orders—has to take on additional employees.

• These additional workers get paid and spend their wages on consumer goods—thus increasing the general level of consumer buying activity.

• Result: many areas of the economy wind up with increased business—just because one segment decided to modernize.

At Standard Pressed Steel

## Purchasing Department Runs Firm's Program Of Plant Modernization

Here's a capsule history of how Standard Pressed Steel has utilized its purchasing department to run a full-scale modernization program. Addition of this new "modernization" function has actually enhanced the performance of other major S.P.S. purchasing activities—like materials procurement, inventories, and traffic.

And the reason isn't too hard to find. The S.P.S. purchasing setup puts all procurement functions under one roof. It facilitates administration and integration of all the company's buying activities. It has resulted in decreased costs, increased efficiency and sales, and has put S.P.S. products in the forefront of American industry.

Modernization functions of S.P.S. purchasing involve:

1. Acting as a clearing house—All the initiating, evaluation, and administering of capital equipment purchases is funneled through purchasing.

2. Running a modernization program—This goes hand in hand with the "clearing house" function. The purchasing department has set up a goal of replacement of all high production equipment after five years of use.

3. Conducting extensive machinery research—The department runs periodical investigations to find better machines and equipment. Aim is always to lower unit labor costs and increase productivity.

It's interesting to go back to see how and why this valuable program got started. This firm had experienced phenomenal growth during and after World War II when equipment and tools were in extremely short supply. Result: During this period it experienced major difficulties in procuring the machine tools needed when they were needed.

The tool problem is further complicated for this company because orders for capital equipment have to be anticipated well in advance. Some of the company's more complex equipment has 3-4 year lead times.

Moreover, the firm operates in an extremely competitive market. It acts as a middleman between the steel makers and the consumer. SPS must have the best cost saving equipment available if it's to grow—or even survive.

Finally, the President of the firm is also extremely interested in machinery. But this is not a prerequisite for this program. Certainly any forward looking management can be sold on the importance of modernization and its advantages.

To meet its capital goods needs, S.P.S. discovered that it needed a staff of trained men—well versed in the following:

1. Technical "know how," machine design and methods, etc.

2. Purchasing techniques and procedures.

3. Intimate knowledge of the company's operations.

Significantly enough the purchasing department has gradually obtained personnel well versed in all of these three areas. But it didn't just happen—it took time, effort, and foresight on the part of the purchasing department personnel to develop this valuable program.

For example, before the plan fully developed, a top engineer used to devote much of his time to decisions on the type of machine tool purchases needed. The purchasing department pointed out that he belonged in purchasing since his major function was procurement.

This top man, Sid Matthews who has 32 years of S.P.S. experience, was placed in the purchasing department as a "machine tool analyst." He heads up a group unique in industry that does nothing but evaluate machinery, make suggestions, initiate new techniques, etc.

But it should be emphasized that the entire department is also involved in this program. All purchasing men are expected to know machine tools. They spend much of their time on the factory floor, at machine tool shows, etc. They know machinery inside out. No "desk" man is tolerated.

The overall goal is the replacement or reconditioning of all high production equipment over five years of age. High production equipment is defined as the machines that do the "bread and butter" jobs. Priorities are given to keep them up to date.

Machine tools needs and costs are also estimated over the next five years on the basis of sales forecasts, new technical developments, replacement, etc.

Result: The purchasing department has, at any moment, a complete five year picture of what's ahead in the way of equipment purchases and needs.



SID MATTHEWS heads a group unique in purchasing annals.

**SPS**  
STANDARD PRESSED STEEL CO. - JENKINTOWN, PENNSYLVANIA

**PLANT AND EQUIPMENT BUDGET APPROPRIATION REQUEST**

LOCATION \_\_\_\_\_

NO. \_\_\_\_\_ DATE \_\_\_\_\_

MANUFACTURER AND DESCRIPTION \_\_\_\_\_ ESTIMATED COST \_\_\_\_\_

PURCHASE ORDER NO. \_\_\_\_\_

FOR - DIVISION \_\_\_\_\_ PURCHASE ORDER DATE \_\_\_\_\_

DEPT. (MACHINE GROUP) \_\_\_\_\_ SUPPLIER \_\_\_\_\_

G. L. ACCOUNT \_\_\_\_\_ DEPRECIATION RATE \_\_\_\_\_

ESTIMATED DELIVERY (Fill in Amounts)

|          | 1957 | 1958 | 1959 | 1960 | 1961 |
|----------|------|------|------|------|------|
| JANUARY  |      |      |      |      |      |
| FEBRUARY |      |      |      |      |      |
| MARCH    |      |      |      |      |      |
| APRIL    |      |      |      |      |      |
| NOVEMBER |      |      |      |      |      |
| DECEMBER |      |      |      |      |      |
| TOTAL    |      |      |      |      |      |

PURPOSE: (Describe fully. Attach extra sheet if necessary)

INITIATED BY \_\_\_\_\_ APPROVED \_\_\_\_\_ (PRESIDENT) (DATE) \_\_\_\_\_

APPROVED \_\_\_\_\_ (DIVISION HEAD) APPROVED \_\_\_\_\_ (TREASURER) (DATE) \_\_\_\_\_

1228 REV. 1957

**SIMPLIFIED FORM** takes care of most paper work. There is room for evaluation, justification, approvals, and all other pertinent information.

To aid them the department keeps a close watch on the age of all machine tools and the need for replacement. To do this there is a close liaison between the sales, product, and purchasing departments. Periodical reports on machinery age and health are prepared and analyzed.

It takes a simple requisition to get a new machine. There are no long-winded forms, and red tape has been kept down to a minimum.

But this does not mean that significant evaluations are glossed over or forgotten. All necessary information including justification for the purchase is included on this one simple form.

All in all the company shells out some \$7 million a year for machine tools—1% of the total machine tool output of the nation.

The department deals with close to 200 different manufacturers in spending some 80% of its after-tax profits. This means dividends may be small, but it's more than compensated for by steady company growth.

Such a program has its advantages:

1. It puts purchasing on the management team. The department here really performs a series of management functions, and department members often see the president two or three times a week.

2. It relieves other departments of part-time non-functional duties. The production department's main job is output—not procurement. If technical knowledge is needed to buy a particular piece of equipment, production people—while they're consulted—don't have to stop what they're doing to develop pertinent information. The purchasing department carries the ball in all company procurement problems.

3. It maintains a centralized service for keeping the company abreast of new developments. People are trained to go out into the vendor's factories. They understand new developments and can relate them to the firm's own products.

4. It leads to a better vendor relationship. The equipment seller knows that S.P.S. purchas-

ing men are well briefed and that if he has a good product it will be purchased. It should be noted, that with the close interchange of ideas between the company and its vendors, the company has been able to develop specialized equipment and in certain instances to borrow needed equipment in emergencies.

5. This program puts the machinery buying function where it can best be accomplished—in the purchasing department. Here you find men who know the machinery, know the vendors, know how much money there is to spend, etc.

6. Such a step also eliminates friction. When a function is clearly defined as belonging to one department, there is a greater tendency for cooperation between the interested departments.

The proof of the pudding is in the results. With this new modernization program, S.P.S. has more than managed to hold its own in this fiercely competitive field. Net sales for example, have almost increased four-fold in the last ten years. Last year's shipments (61.74 million) were some 20% above the previous year's orders.

Moreover, the company obtained a considerable reputation for reliability and efficiency in its products. While this may not be measured, it's an important asset for any manufacturing firm.

**New York**—Standard Pressed Steel Co. shipments are currently running some 20% ahead of the first six months of 1958, 10% ahead of last-half 1957 according to a news statement by H. Thomas Hallowell, president of the concern.

Order backlogs are running some \$4,500,000 above year-end 1957 figures. Moreover, there has been an across-the-board increase in order inquiries—indicating a further pickup is in the cards.







# DoALL SAW BLADE gives you the most sawing for your dollar

Think of it! Here's a precision cutting tool, costing only \$2.58, that is capable of cutting 13,000 sq. in. of aluminum. In a typical cost study, No. 355 cast aluminum was cut at 25 sq. in. per minute. Tool cost, based on the actual life of the blade, was only 1/50th of a cent per sq. in.

This gives you some idea of what is

happening in metalworking with the new speeds and low tool costs made possible with modern DoALL band machining.

Where else can you get this much cutting for so little tool cost?—And the faster cutting rates reduce direct labor costs, too! The table below gives you typical examples of DoALL Saw Blade performance.

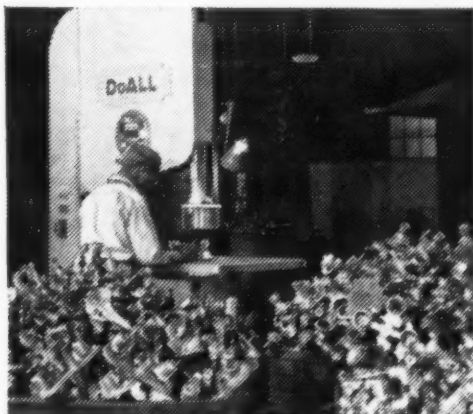
## HERE'S THE PROOF!

| Cost/sq. in. | Material                           | Sq. in cut/min.. | Standard Blade                   |
|--------------|------------------------------------|------------------|----------------------------------|
| 1/13¢        | No. 316 Stainless Steel 1/4" Thick | 5                | 3/4"—10 Pitch Friction Saw Blade |
| 7/100¢       | 24 ST Aluminum                     | 140              | 1/2"—3 Pitch Buttress ®          |
| 1/5¢         | Structural Steel                   | 37               | 1"—10 Pitch Friction Saw Blade   |
| 4/10¢        | "Ketos" Tool Steel                 | 1.25             | 1/4"—6 Pitch Claw Tooth ®        |
| 1/50¢        | No. 355 Cast Aluminum              | 25               | 1/2"—3 Pitch Claw Tooth          |

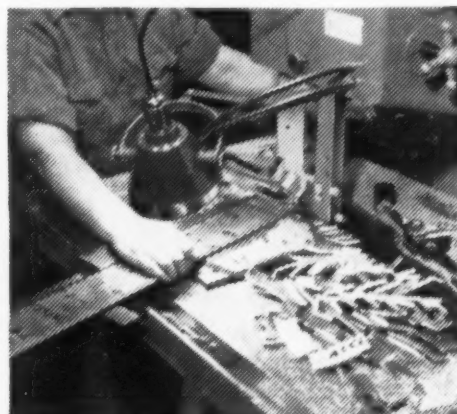
## Lower costs ahead for you

Forward-looking manufacturers are taking advantage of the new economies available through DoALL's advanced techniques. Without obligation, a DoALL specialist

will gladly discuss your specific applications and advise you where new methods can be applied to save you money. Call your local DoALL store today.



Zephyr machine trimming high chrome-nickel castings. Tool cost 94¢ per 100 cuts.



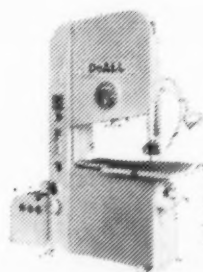
Model 16-3 Contour-matic sawing aluminum segments. Tool cost 3¢ per 100 pieces.



Model 26-3 Contour-matic slotting bronze castings. Tool cost 46¢ per 100 pieces.

\*1/2" Wide—

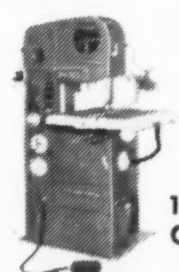
3-Pitch Claw Tooth Blade 10' Long.



36-W  
Zephyr



16-M  
Contour



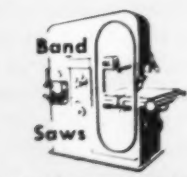
16-3  
Contour-matic ®

SB-63



THIS IS A  
TYPICAL DoALL STORE

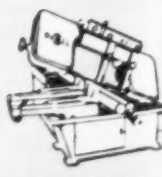
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MEASURING  
INSTRUMENTS



SHOP SUPPLIES  
..... IN STOCK



# New Materials Aid Modernization

No modernization program exists without materials and products. Most of the planning that goes into such a program eventually for most success hinges on the products and materials purchased. New products and materials, are vital. The chart at right summarizes developments in new materials, what they are, where you can use them. Following is a roundup of new products and trends—the kind of new products that permit faster and cheaper production and thus lend themselves to a modernization program.

**Materials handling equipment**—Trend in fork trucks is toward small improvements providing better performance, more versatile attachments. They shift forks side-to-side or tilt load. Another attachment handles Sealbin containers (Yale & Towne Mfg. Co.). Magnetic attachment facilitates movement of tinplate coil. Fork and boom combination lets truck serve also as a crane (Automatic Transportation Co.). Narrow-aisle truck handles long loads (Raymond Corp.). Removable counterweight lets user double truck's capacity. Clamp handles both palletized, un-palletized loads (Lewis-Shepard Products, Inc.).

**Maintenance equipment and supplies**—Coatings for galvanized steel, aluminum, and terne plate needs no pre-finishing. (Rust-Oleum Corp.). There's a slew of new corrosion-resistant finishes and coatings to suit almost any requirement (Garland Co., Harco Chemical Co., National Asphalt Corp., Selby, Battersby & Co., Speco, Inc., Hallemite Mfg. Co., Gulf Oil Corp., to name just a few). Floor maintainers run the gamut from a 66-in. wide push broom and dirt collector (Thompson & Sons, Inc.) to a huge vacuum sweeper-polisher combinations (Columbus-Dixon, Inc., Holt Mfg., Clarke Sanding Machine Co.). An all-purpose floor sweeper sweeps 100,000 sq. ft./hr. (Industrial Sweeper Co.).

**Packaging machines and containers**—More machines to handle polyethylene are available (Battle Creek Packaging Machines, Inc., Packaging Machinery Division, Fook Machinery & Chemical Corp., Hayseen Mfg. Co., Package Machinery Corp.). Labelers are getting faster (New Jersey Machine Corp., Derby Sealers, Inc., Avery Adhesive Label Co., MRM Co.). Device uses ultrasonics to weld aluminum foil (Gulton Industries, Inc.). Many types of drum linings and coatings are available—phenolic, nylon, epoxy, and their blends. One company has started packaging its piping fittings in cardboard containers. (Tube Turns Division, Chemetron Corp.). Knocked-down corrugated containers, shipped flat, save space and shipping charges. (Gaylord Container Corp.). Other corrugated containers compete with steel drums, wooden crates, offer special designs (Jackson, Box Division, Mead Containers, Inc., Hinde & Dauch.).

**Hand Tools**—Many companies are now offering magnetic base drills (Thor Power Tool Co.,

## Introducing P.A.'s to Some New Industrial Materials

### These materials . .

#### METALS

Foamed aluminum  
Titanium  
Zirconium  
Superalloys  
Powdered stainless

Aluminum

#### PAPER PRODUCTS

Rough printing paper  
Combination papers  
Synthetic fibers  
Stretchable kraft  
Vacuum metalized paper  
Waterproof, flame resistant kraft

#### CERAMICS

Porcelain enamel  
Ductile ceramics  
Metalized  
Fibers  
Foamed

#### INDUSTRIAL FIBERS

Glass and ceramic  
Non woven  
Coated  
Synthetic staple

#### GLASS

Pyroceram  
Coated glass  
Optical glass  
Fibers  
Photo-sensitive

#### PLASTICS

Polypropylene  
Polycarbonate  
Bonded plastics  
Rigid foams

#### CHEMICALS

Water-base paints  
Intermetallic compounds  
Bacterial inhibitors  
Electrically conductive fluids  
Organic coatings

### With these advantages . . .

Strong, corrosion resistance, very light-weight  
Resists high temperature corrosion; hardenable  
Good resistance to hydrochloric acid  
High strength and corrosion resistance  
Moldable into corrosion resistant articles, eliminate cost of machining  
Lightweight, lower cost with volume production

Coating can be done during paper-rolling operation; lower cost  
Assume strength and other advantages of aluminum, polyethylene, other backing materials  
Increased strength, tear resistance  
Increased burst strength, lower cost than crepeing  
Reflective insulation  
Good strength and lightweight

Improved shock resistance; resists corrosion and temperatures up to 2,500 F  
Can be rolled and formed into intricate shapes, then fired  
Add strength and other properties of metal coatings  
Form heat resistant paper and ropes  
Light weight, resists temperature

High temperature, corrosion resistance, lightweight  
Cheaper to produce yet retains properties of fiber blends  
Add good properties of plastisols and vinyls to strength of fibers  
Good chemical resistance to wet, corrosive industrial gases

Hardness, lighter than aluminum, strong, chemically resistant  
Strength increased, breakage reduced  
Lower cost by automatic melting and pressing of lenses  
Increased strength, non-corrosive  
Can be developed like film

High tensile and impact strength, good dielectric properties at high frequencies  
High heat resistance, good dimensional stability and electrical properties, high impact strength  
Combining good properties of two: nylon-acrylic gives scratch resistant, non-shattering sheets  
Easily molded, foamed in place around intricate shapes

Applicable to exteriors; fire and explosion resistant  
Produce cold with application of electricity; no moving parts  
Double life of soluble oil emulsion cutting oils  
Permit fluids to become magnetic  
Replace paints and plating; increase protection, reduce maintenance

### Will be used for:

Light, intricate shapes  
Springs, rivets, pressure tanks  
Heat exchangers, valves, chemical equipment  
Gas turbines, processing vessels  
Intricate shapes  
Cans, flexible packaging

Corrugated boxes

Bags, packaging

Filters, gaskets, labels, clothing  
Multi-wall bags, throwaway fabrics  
Packaging, building insulation  
Sandwich cores in building panels

Incinerators, chutes, chemical equipment  
Heat exchangers

Pump parts, pistons  
High temperature gaskets, packing  
Sandwich cores

Filters, belts, storage bottles, valves  
Work clothing, filters, packaging

Outdoor coverings

Acoustic mufflers for exhaust blowers

Chemical lines, containers  
Optical lenses

Filters, screening, reinforcement for plastics  
Decorative panels

Containers, insulation, pipe, filaments  
Gears, bottles, structural parts

Safety lenses, windows

Packaging, insulation, sealing

Outside protection  
Coolers, air conditioners

Lathes, drills, grinders  
Brakes, clutches, switches  
Buildings, vessels

Buck Mfg. Co., Black & Decker Mfg. Co.). Portable metal stapler operates in any position (Bostitch). Multi-purpose tool drills brittle materials (Ramset Fastening Systems). Portable pipe tool grooves lightweight pipe (Victaulic Co. of America). One-hand air hammer is for close-quarter or blind spot work (Superior Pneumatic & Mfg., Inc.). Powder-actuated tools drive threaded or headed studs into concrete and steel (Velocity Power Tool Co., Ammo Products, Inc., Ramset Fastening Systems, Remington Arms, others). Heavy-duty router has a micrometer-type depth adjustment (Black & Decker Mfg. Co.).

**Electrical equipment**—Open-type integral horsepower motors with new types of insulations can operate in wet or corrosive atmospheres without additional protection (General Electric Co., Westinghouse Electric Corp., Allis-Chalmers Mfg. Co.). Silicon rectifiers rated at 100 to 1,000 kw. are available (General Electric Co., Westinghouse Electric Corp.). Aluminum electrical fittings come in complete lines. (Aluminum Co. of America, Erico Products, Inc.).

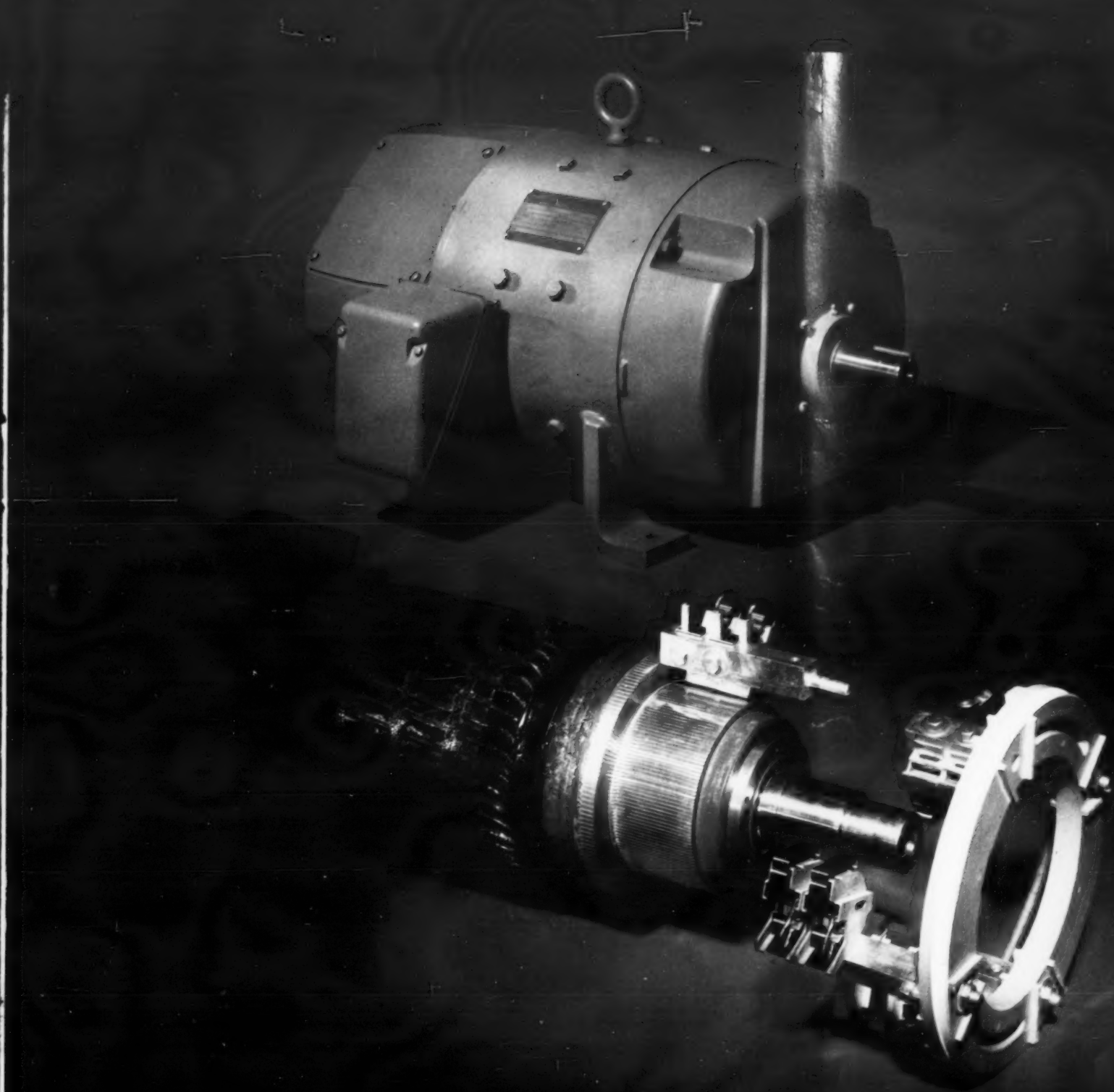
**Fasteners**—The push is on for more hex instead of square heads. (Russell, Burdall & Ward Bolt & Nut Co.). Except for a few

special-use types company plans to convert to hex heads on all nuts and bolts.

**Metalworking equipment**—Numerically-controlled machine tools are expected to be in wide use by many industries soon. New techniques for removing metal are becoming more prevalent—chemical milling, spark and electrolytic machining, ultrasonic machining. Other techniques—thread and gear rolling, hot and cold extrusion, casting, forging, explosive forming—reduce machining needed. Lathe is specially designed to take advantage of ceramic tools (R. K. LeBlond Machine Tool Co.).

**Office equipment**—A number of companies are offering low-priced (to \$100,000) electronic computers (Underwood Corp., International Business Machines Corp., ElectroData Div., Burroughs Corp., Royal McBee Corp., Clary Corp., Monroe Calculating Machine Co.). Just about every manufacturer is offering a 10-key calculator. Powered card and index files speed record handling (Remington Rand, Diebold Inc., Mosler Safe Co.). Electronic typing calculator can be programmed to type out accumulations (IBM). System puts engineering drawings onto microfilm fixed to punched cards (Eastman Kodak Co., Remington Rand).





NEW GENERAL ELECTRIC DC MOTOR GIVES

## Extra Power To Meet Peak Loads

**KINAMATIC** . . . a new standard in industrial direct-current motors . . . designed to meet the vital power load requirements of modern manufacturing methods.

**Proper Design Balance** . . . means unmatched commutating ability . . . the ability to deliver the short bursts of power required for quick acceleration and deceleration. Fewer turns per armature coil . . . full complement of commutating poles

. . . maximum number of commutator segments, combine to permit higher peak loads.

**New Brush Assembly** . . . constant-pressure brush springs eliminate brush adjustments. Bronze, corrosion-resistant brush holders are mounted on square steel studs for stable operation in both directions of rotation. Molded polyester-glass yoke resists impact, intense heat and corrosion.

**D-c Kinamatic Motors** offer a reliable key to successful automation. Additional information is available at your nearest General Electric Apparatus Sales Office. Or, if you prefer, write for Bulletin GEA-6355, *Direct Current Motor and Generator Department, Erie, Pennsylvania.*

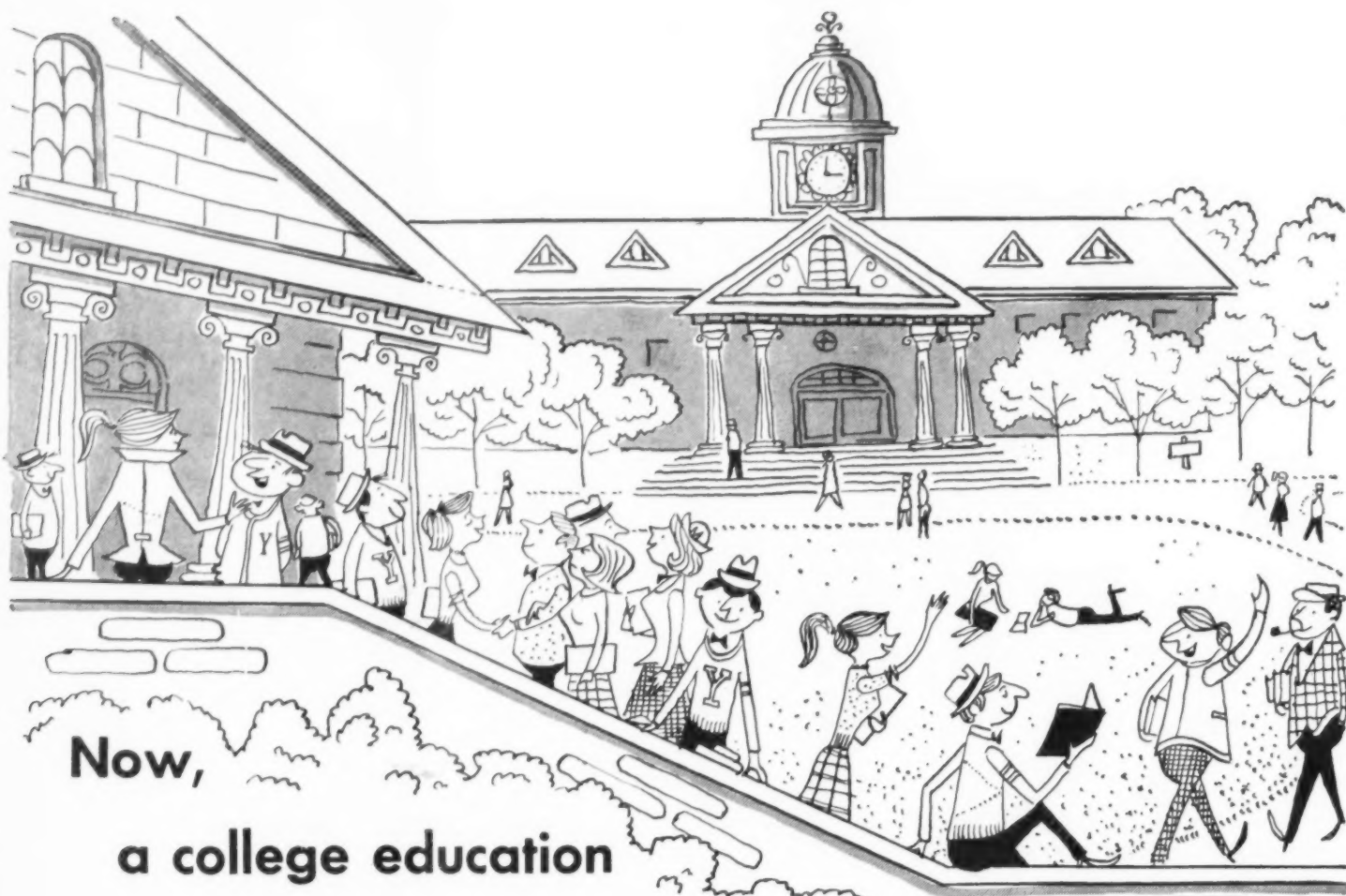
\*Trade-Mark of General Electric Company.

813-11

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**GENERAL  ELECTRIC**





Now,

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for just a few dollars a year!

Some time ago, a man called your name, and you walked across a stage, and were handed a diploma. Were you proud! You were educated. The world was your oyster.

You promised yourself then that you would keep your education alive. That you'd go back and earn that graduate degree. Or brush up at night school, or some summer seminar. But then you met that pretty girl. A few years later — the stork, the new house on Cedar Road . . . everything seemed to happen at once.

Meanwhile, back on the job, you were busier and busier. Company expanding. New products. New problems. Nights when you got home, you were really beat. After dinner, you'd park yourself in your easy chair, find your mind wandering to the future — "Am I slipping? Is management passing me by?"

May we help you help yourself? May we suggest a method for moving ahead, a proved road to new opportunity? Do you know that you can

still get that advanced education you promised yourself — and for just a few dollars a year?

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# P.A.'s Comment on Modernization

The relative cost of maintaining existing equipment is the chief standard purchasing executives use in deciding when to buy new equipment. High repair cost for old worn-out machines provides the signal to push the "buy" button for 64% of purchasing executives responding to PURCHASING WEEK's survey of the kind of equipment needed for modernization and the methods used to find out when to modernize.

Backdrop this against the need for modernization in terms of inflation pressures and the cost-price squeeze (p. 9), and you come up with a curious fact. Much of many companies capacity to produce must be limping along on equipment that is obsolete or approaching obsolescence.

An approach to replacement through maintenance costs is unrealistic because it is independent of the economy's moods. Based on the real need for modernization, equipment replacement more properly hinges on the new equipment's ability to out-perform the old where the latter's repair costs are out of hand.

## Standard Explained

Most of the other 36% of purchasing executives specifying a standard for replacing equipment took into account the increase in production and higher quality new equipment would permit.

One purchasing executive (lighting products) puts it this way, "We continuously replace equipment as better methods are developed. Competition forces us to maintain this policy. Buying capital equipment of any kind to better methods and efficiency is a must with us regardless of cost, providing the equipment pays for itself in a reasonable length of time."

These are some comments:

**Bulk-materials handling products**—"We feel that the best standard for judging when a piece of equipment needs replacing is when another piece of equipment becomes available which, because of the obsolescence of the original equipment or an improved design, makes it possible to produce our product more economically."

**Electrical controls**—"When the replacement will result in an equipment advantage, lower labor costs, and an improvement in the product's market position."

**Incandescent lamps**—"When it can no longer produce efficiently in competition with new equipment."

Purchasing executive's favoring repair costs as a means of determining when to replace equipment have this to say:

**Sheet metal products**—"When it cannot be fixed any more and any additional work will completely wreck it."

**Carbon products**—"When the old equipment is worn out and costs of repair reveal that a new piece of equipment could be run economically."

**Printer**—"Constant breakdowns and poor quality production."

Some 18% purchasing executives use a formula to help decide when to replace a piece of equipment. But PURCHASING WEEK's survey points to no particular

formula as being widely used. The MAPI (Machinery and Allied Products Institute) formula, either as is or modified, is mentioned several times. The MAPI formula takes these factors into account: future earnings, future prices, current interest rates, acquisition costs, life of machine.

Generally, respondents compare the expected savings from a new machine—greater output, less maintenance, reduction in

labor—against the machine's cost. These savings should pay for the new machine in 3 yrs. or less.

One purchasing executive leans on his suppliers for maintenance figures. He says, "We request repair and maintenance costs from the manufacturer before purchase for each year of expected life. If this amount exceeds by 50% any given year's depreciation, we then consider a replacement."

Most purchasing executives

holding to repair costs as the determining factor in buying new equipment keep a record of repair cost. If it adds up to more than the price of a new machine over a fixed period—say one year—then it's time to buy. One respondent puts the dividing line at 35% of the cost of a new machine.

The most favored position on the use of a formula is spelled out by a purchasing executive in a company making porcelain

panels. He says, "We use no mathematical formula, rather a formula for thinking. The various factors we include are:

- What are the advantages of modern over present equipment?
- What maintenance cost is now involved and what kind of reduction in maintenance can we expect from new equipment?
- How fast can we write off, for taxation purposes?
- Can present equipment pro-

(Continued on page 20)

## USE OUR CAPITAL to cut your handling and processing costs

When we do a share of the processing of your steel—the cutting, burning—you save the costs of the labor it takes and the capital invested in the equipment involved. You save expensive costs of handling. You cut scrap loss and wastage. That's good business.

You get your steel delivered quickly from stock, ready for use. Whatever your steel need, there's a nearby Steel Service Center set up to serve you.

If you're putting steel in inventory because you think it's a bargain, compare all of your costs of possession with the cost and freedom-from-risk of buying from your Steel Service Center. Use this chart. Or, to be more precise, get the booklet *What's Your Real Cost of Possession for Steel?* from your convenient Steel Service Center. American Steel Warehouse Association, Inc., 540 Terminal Tower, Cleveland 13, Ohio.



The American Steel Warehouse  
...YOUR STEEL SERVICE CENTER

### Cost of possession for steel in your inventory

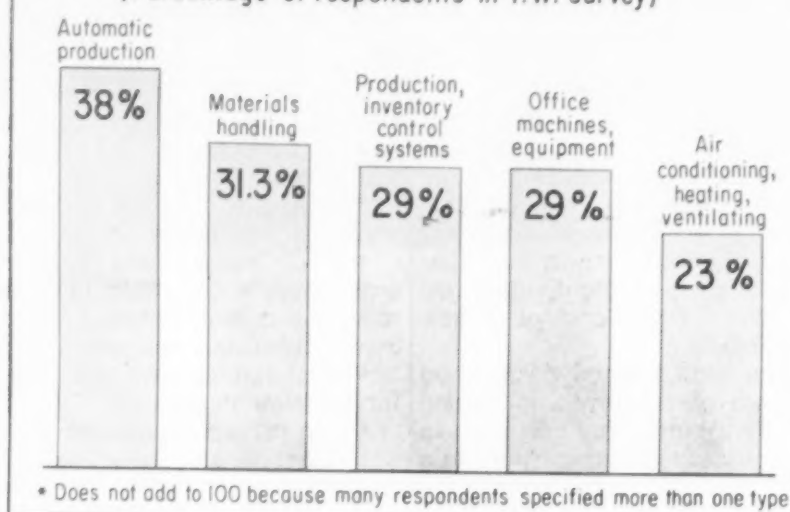
|                    |       |
|--------------------|-------|
| Per ton delivered  | _____ |
| Cost of capital:   | _____ |
| Inventory          | _____ |
| Space              | _____ |
| Equipment          | _____ |
| Cost of operation: | _____ |
| Space              | _____ |
| Materials handling | _____ |
| Cutting & burning  | _____ |
| Scrap & wastage    | _____ |
| Obsolescence       | _____ |
| Insurance          | _____ |
| Taxes              | _____ |
| TOTAL              | _____ |

### Cost of freedom-from-risk steel from your Steel Service Center

|                                     |       |
|-------------------------------------|-------|
| Per ton, cut-to-size, and delivered | _____ |
| TOTAL                               | _____ |



## EQUIPMENT NEEDED FOR MODERNIZATION (Percentage of respondents in P.W. survey)



(Continued from page 19)  
duce desired quality?

• Will capital expenditures budget allow purchase?

Individual requirements vary all over the lot, and no formula appears to satisfy all cases. Thus a purchasing executive for a sheet steel fabricator and fastener manufacturer emphatically points out that he has never seen a formula that can be a strong enough basis to spend capital money. But he does say, "We look at equipment quite differently than most. If a machine is outdated, it needs replacement. Or if X number of hours have been run on the machine after several major overhauls and the machine cannot hold the required tolerances, it needs replacement."

When asked what new equip-

ment they thought would make their company's operation more efficient, 38% of the purchasing men surveyed stressed automatic or semi-automatic production equipment.

In fact, various types of automatic equipment were spotlighted by the majority of purchasing executives. They even went one step further; and stipulated that if the funds were available, they would purchase such equipment tomorrow.

Of course a choice of products and machinery differed industry by industry. For example, 31.3% of those participating in the survey felt that materials handling equipment would better the efficiency of their company's operation. 29% preferred production and inventory control systems.

## Old Products When Modernized Can Contribute Share to Modernization

Old products can make a definite contribution to modernization. Manufacturers are constantly improving their line of products. Improvements through the years bring products up to date and provide users with increased efficiency. Here are some examples:

Fischer & Porter Co.'s series 2700 variable-area flow-meter has seen a number of improvements. Now three meters in the line can handle the same flow range as previously handled by eight.

DoAll Co. bandsaws today out-produce its prototype many times over. High-speed steel saw blades foster a whole new line of machines.

Hewlett-Packard has built into its electronic oscillators less distortion, long life reliability components, and more compact design.

Rockwell Mfg. Co. has widened the speed range available on its 14-in. metal-wood cutting band saw. New speed range lets it handle a wider variety of materials.

Raymond Corp. has improved its original hand pallet truck for use with double-faced pallets. Improvements have included newly designed pump and reinforced handle.

American Optical Co. has incorporated protective changes in its spectacle-type safety glasses. Changes in the function have been minor, but changes in design have led to more attractive appearances. Fitting is now easier.

Tube Turns, Division of Chemetron Corp., has the same basic line of products today as it

had 10 yr. ago. Line has expanded in size range to accommodate greater capacity in flow of materials. New materials let the product withstand greater pressures and temperatures, and resist corrosion.

National Vulcanized Fibre Co. has improved its fiber shipping containers to allow damage-free shipment of delicate instruments by air.

Simmons Machine Tool Corp. is making use of new alloys to improve the operation of its old metalworking equipment. It has changed gearing from spur to helical or herringbone, added greater horsepower, and increased weight for more rigidity.

A number of other products have seen steady improvement.

Boring bars now available with adjustable and interchangeable heads (Kennametal, Inc.). Vibrating screens which afford maximum isolation of vibration and quiet operation now have air springs (Allis-Chalmers Mfg. Co.). Punched card accounting machines with increased processing speeds (International Business Machines Corp.). Renewable seat-ring bronze gate valve's design eliminates the necessity of removing the valve from the line for maintenance (Fairbanks Co.). Fully automatic calculators with improved mechanical efficiency (Friden, Inc.). Line of hydraulic cylinders now use O rings instead of ram packings.

Cylinders are smaller despite larger pressure ratings (Oilgear Co.). Socket wrenches use new alloys for greater strength. Re-

designed handles reduce operator fatigue (Snap-on Tool Corp.).

## How P.A.'s Can Contribute to Modernization

1. Find out how your company ranks with competition. Check Moody's for specific profit figures. For industry averages consult F.T.C.-S.E.C. Quarterly Financial Report.

2. Obtain from your accounting or cost control department, your plant's production figures.

3. Find out how you rank in unit labor costs with average for your industry (see p. 14).

4. Check quality control, inspection, and reject records. Compare with scrap history.

5. Talk with salesmen who call on leading competitors. Discover what new kind of capital equipment they have bought.

6. Compare your production figures with those obtainable from machines competitor uses. Consult sales literature.

7. Call in salesman. Get operating, maintenance, and spare part story on new machines. Find out what nearby plants use them.

8. Visit these plants. Are machines adaptable to your plant? Bring back user's experience and figures on reliability, production, servicing, and installation.

9. Talk with production and maintenance foremen in both shops. See if their opinions of machine efficiencies back up sales data.

10. Investigate leasing advantages for this type machine. Consider buying used equipment with high production rates.

11. Analyze all factors. If new machine looks desirable, make recommendation that it be procured—and why. Turn in a good report including full information on terms, guarantees, delivery schedules, etc.

## Modernization Program Opens Door to P.A.'s after Recognition

Purchase of Capital Equipment Sure to Involve Him because of His Knowledge and Contributions He Can Make to Company Plans

Not every purchasing agent can expect to play the role in equipment replacement that Sid Matthews does at Standard Pressed Steel (p. 14). But in many other companies purchasing still plays an active part.

### Expenditures Aired

At A. O. Smith in Milwaukee the capital expenditure committee meets Monday mornings with Walter Froderman, general purchasing agent of equipment and facilities. After all angles have been considered by members representing engineering, manufacturing, purchasing, and tool and die shop, recommendations for equipment purchases are forwarded to the controller. As Froderman says, "purchasing plays a responsible role in deciding what capital equipment is needed as well as procuring the best piece."

### Striving for Stature

In companies where purchasing may still be striving for stature, a modernization program opens a door to recognition—if the challenge is accepted. No one else in the plant is in a better position to make the contribution purchasing can.

As N. H. Reese, vice president and general manager, Bell & Howell, Phillipsburg, Pa., told PURCHASING WEEK: "For P.A.'s to move into top management positions, they must learn to divorce themselves from detail so they are available when an opportunity is at hand. The P.A. should get involved in activities outside purchasing, never miss an opportunity to volunteer services of his department to solve problems. He should keep himself advised on all areas and problems of the business."

Modernization presents such an opportunity to purchasing.

Dexter Keezer's forecast (p. 9) shows that you as a P.A. will help spend \$10 billion yearly for

modernization during the next five years, just to keep pace with technical advances. Add to this the \$100 billion backlog of equipment already requiring replacement, and you have some idea of the extra responsibility that will be passing through the purchasing office.

How can the P.A. help his company compete for tomorrow's market? Why should he?

Probably, one of the best reasons is selfish—to help himself. If the company grows, the purchasing job grows with it. New opportunities will open. If the P.A. wants to accept more responsibility here is his chance to take the initiative, even to be the spark for a modernization program in his company.

### P.A.'s Must Acquire Reputation

E. Boykin Hartley, vice president of Railway Express, commented to P. W. recently, "To gain recognition from top management, purchasing agents should make every effort to acquire the reputation for having company-wide interest and viewpoint."

Whether he likes it or not, the P.A. is sure to be involved in increased capital expenditures and shouldn't regard it lightly. He should realize that he is in a favorable position, more than anyone else in the plant, to contribute to the success of a modernization program. The reasons:

1. Purchasing already has information on M.R.O. supplies. Analyzing them may point out inefficient machines which need replacing.
2. Purchasing can recognize production inefficiencies in handling scrap. Obsolete machines can be spotted by reject rates.
3. The P.A. is the listening post for conditions on the outside: market changes,

what competitors are doing to modernize, and favorable equipment purchases.

4. The P.A. is perhaps the first to obtain information on new materials and machines which can increase production efficiencies.

5. Purchasing has worked hard to obtain top quality raw materials for manufacturing. It is natural to retain an interest in their efficient utilization so they emerge as saleable products, not as rejects.

### Listening Post of Firm

As the listening post for the company, the P.A. should make recommendations on what he hears. Otherwise he will delay the company's chances to react quickly to changing competitive conditions.

Some P.A.'s may be concerned that purchasing is out of place in instigating a modernization program. But the P.A. eventually interested in a management position might listen to what J. V. Naish, president of Convair, said recently. "To move up the management ladder," he said, "many P.A.'s must overcome the myopic viewpoint which looks at purchasing as an end in itself rather than an important segment of overall company activity."

### Other Fields Open

If the purchasing agent feels company growth means only more work, not more stature, he should consider the opportunities opening up in materials management as company growth demands organizational changes. Such was the case at DeWalt Division of A.M.F.

The DeWalt Division started out in Lancaster, Pa. 18 years ago as the brainchild of a maintenance man. As the advantages of radial arm saws caught attention and the dollars of industry,



the plant expanded once, then again, and again. After the last expansion Al Wedge, manufacturing vice president, realized he had too many people reporting to him. So in reorganizing for efficient operation, he tapped P.A. Hugh Johnson as the manager of materials. Now Johnson helps to evaluate new equipment.

## Signs Show Need

Signs pointing to needed equipment replacement may already be available to alert P. A.'s. For instance at Western Electric plant at Kearney, N. J., scrap disposition is handled by Ken Brown. He follows a system in which all reject material is not accepted for sale as scrap until a ticket specifying producing operator and machine is filled out. These tickets go to accounting which studies trends on machines. If a new operator is not at fault, then machine replacement is considered. Any purchasing department handling scrap can set up a similar system.

## Contribution Explained

Another reason purchasing can contribute to modernization is the P. A.'s closeness to new products and materials. As Walter Froderman told P. W., "At A. O. Smith our capital equipment committee often recommends new equipment that the man on the floor doesn't even know exists. Salesmen keep us alert to the latest developments."

As shown by a recent PW survey (p. 16), products of ten years ago have been improved tremendously. Many new ones have appeared. Both improved and new products contributing to efficient plant operation first became known to the plant through purchasing. It's logical for the P.A. to shoulder responsibility for keeping production alert to recently developed equipment. If the P.A. has any knowledge of production output he can quickly determine whether the machine the salesman described is applicable in the plant.

Some old timers in purchasing may remember previous troubles they encountered in convincing labor unions that new equipment should be installed. But labor has grown up too. As George Meaney, AFL-CIO president told P.W., "Labor is for the adoption of new machines that will improve output per man hour." (p.12). The P.A. should not hesitate to recommend a new machine just because he fears the labor union will balk. This fear seldom pans out. As Carol French, consultant to many top industrial firms on industrial relations, told PURCHASING WEEK: "If the union is kept informed of plans for installing new equipment, they almost always go along with it. There is no reluctance to adopt efficient machinery which can improve the standard-of-living of either wage or salary earners."

## Sage Buying Intensified

But if wages continue to outpace output-per-hour advances, as Dexter Keezer points out, the demand for sage buying will be intensified. As one P.A. told P.W. recently, "Our president said he wanted to show a \$10 million gain this year over '57—and purchasing is to be responsible for half of it!"

In procuring capital equipment, this P.A. can not only try to meet his president's dictum on original procurement value, but

also by choosing the best equipment for producing continued profits.

Once the P.A. has ordered capital equipment, his responsibility does not end. This is especially true of purchasing departments involved in procuring equipment for foreign projects. Accurate delivery dates must be met; otherwise the competitive advantage of new machinery is lost. Knowledge that new equipment will not only be delivered but installed, ready to operate at higher production rates, must be assured. The P.A. must iron out details on who rigs the equipment: company or vendor, plus adequate insurance coverage in case of accident. Continued production from new machines will depend on the kind of service agreements written into the purchase contract or leasing arrangements. Even early delivery of equipment can disrupt a tight schedule for dismantling.

## Expediting Role Important

The expediting role that purchasing plays in obtaining new equipment should not be overlooked. It is important to the over-all operation. A thorough picture can be formed when expediting is done correctly. Production boards or similar scheduling tools permit tracing every phase of construction, inspection, and shipment. Tie-in with traffic also is important.

Disposition of obsolete equipment is another contribution purchasing makes to modernization. A P.A. must study the market for obsolete equipment before a decision can be made. The more the P.A. can get for the equipment the more modern equipment he can buy for replacement—or the more money to invest in other things for meeting competition.

For the P.A. who wants to show that purchasing can contribute to modernization, see the 11-point program in box at top of p. 20.

Following such a program will not be strange to the P.A. already involved in purchasing research. A company with a value analysis program knows the cost of producing almost any item in the shop. Someone has made a make-or-buy decision and purchasing knows the facts. The same information can tell whether the plant is operating efficiently. And it can isolate the equipment that needs replacement.

## Participation Is a Challenge

Participation in—even initiation of—a modernization program is a readymade challenge to any P.A. interested in demonstrating managerial potential. As C. H. McGill, senior vice president of New Haven Railroad points out, "A P.A. prepares for top management recognition by acquiring all possible knowledge of the working of the entire organization. 'It requires discussion with other departments, observation of procedures, and questions on performance to get the total picture. Without this information a purchasing executive is groping in the dark.'"

A modernization program is a good chance to try out your managerial abilities.



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# Seven Experts Explain Why This

## These Seven Comments on Plant Modernization Drew Replies from the Experts

1. As a purchasing agent, I don't determine what we need in capital equipment. Top management makes all the decisions, and I process and expedite the orders.
2. If we modernize, we can be sure that resultant increases in output per man-hours will be more than offset by soon-to-follow wage increases. This is the way labor fights technological advances.
3. My company does not have the money or credit to modernize. We feel that bankers stress current profits and are not sympathetic to new equipment purchases for future cost savings.
4. We will modernize when depreciation tax laws are more favorable—not now.
5. If we buy new equipment now, our union will demand a wage increase.
6. We believe in modernizing only when the upturn in business is firmly established—or when prosperity is definitely here. We feel that capital expenditures will be less risky when earnings are high.
7. It is better to spend available funds to integrate company operations towards control of raw material sources than to spend on modernization.



***"Purchasing should participate in all buying decisions."***

**John P. Moorhouse, Director of Purchases, Standard Pressed Steel Co., Jenkintown, Pa.**

"Purchasing departments should do all the buying in a company. And they should participate in all buying decisions. It is the job of the P.A. to sell management the idea that purchasing should handle capital equipment buying. If the P.A. does not have the technological know-how in his department, he should hire an engineer to be in the purchasing department to handle capital equipment purchases. In our case, we transferred the chief engineer of the company to purchasing, and he specializes in machine tool purchases—from decision (with management) to delivery to plants."

***"Labor welcomes technological changes."***

**George Meany, President, AFL-CIO, Washington, D. C.**

"Labor welcomes technological changes. The new techniques offer promise of higher living standards for all, greater leisure, and more pleasant working conditions."

"The collective bargaining process must be utilized to work out the necessary arrangements for introducing machinery and equipment, for reviewing the wage structure and job classifications that might be affected, and for making certain that the benefits flowing from technological programs are shared fully with the workers."

"Labor will continue to press for an expanding national economy with sufficient income in the hands of consumers to purchase the increasing output of American industry."

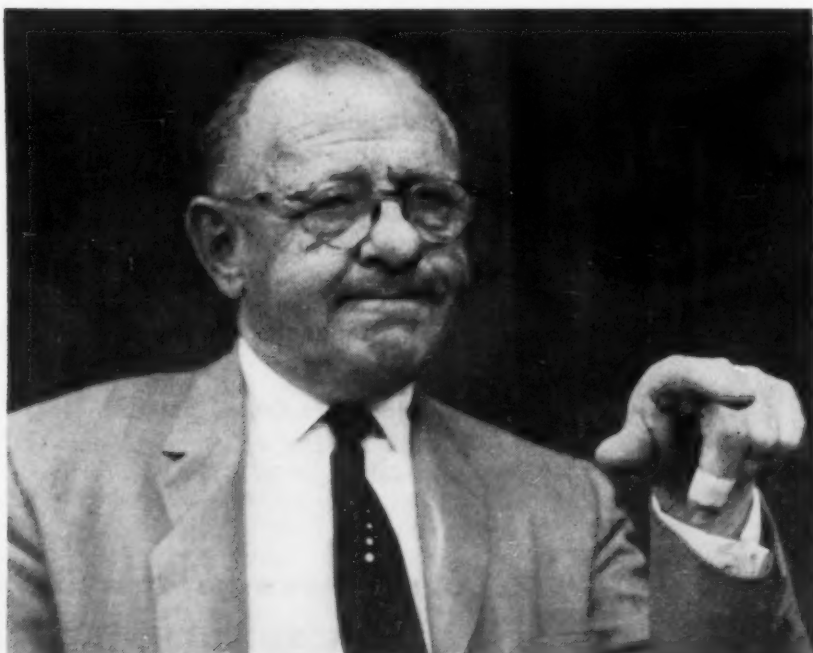


***"The banker may have a constructive suggestion."***

**W. G. F. Price, Vice President, The Chase Manhattan Bank, New York, N. Y.**

"Modernization is a 'must.' Costs are high, with a corresponding level on breakeven points, whether measured in dollars or units. Furthermore, one of the major reasons for the success of our industrial machine has been the practice of progressive management in constantly taking advantage of the results of technological developments."

"But financing of cost-saving machinery is sometimes a problem. Here is where your banker may be of help. Obviously, and unfortunately, bankers can not approve every loan application. This may be due to technical conditions in the money market or to the failure of the banker and borrower to see eye-to-eye on every phase of the loan application. However, even in such cases, the banker may have a constructive suggestion to make as to alternate methods of financing the needed purchase of equipment which gives every promise of paying for itself through savings in cost."



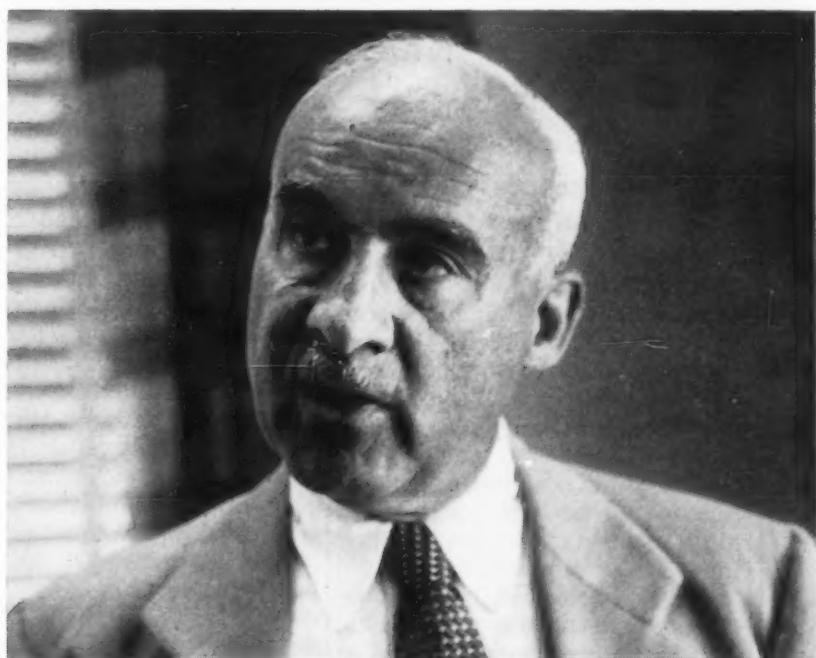


# Is Modernization Time

**"No legislation . . . would warrant a long wait in modernization."**

**Jacquin D. Bierman, Partner, J. K. Lasser Co., Tax Consultants, N. Y. C.**

"The trend of legislation since 1954 has been to encourage capital replacement. This has been done by making available to industry accelerated depreciation systems. Even this year, legislation aiding small business in faster write-offs has been passed. Liberalized accounting procedures and tax laws have created a relatively favorable climate for capital replacement. No legislation is now in process that would warrant a long wait in modernization efforts."



**"There is little evidence that this is likely to happen."**

**Carroll E. French, President, Industrial Relations Counselors Service, Inc., New York, N. Y.**

"There is little evidence that this is likely to happen. Unions very rarely have made wage demands on the ground that they should have the money needed for new plant machinery or equipment."

"In general, labor unions recognize the necessity for management to mechanize and take all possible steps to modernize their equipment and production methods. They are, of course, very much interested in securing maximum protection of employees against the impact on their jobs and earnings."

"Where an effective job is done of helping employees to realize their stake in an efficient, competitive, and profitable enterprise, managements can ordinarily count on the understanding and cooperation of employees and unions in getting maximum returns on capital expenditures for new plants, equipment, and machinery."

**"The greatest contribution . . . is to proceed."**

**Ralph C. Moffitt, Vice president - Purchasing, U. S. Steel Corp., Pittsburgh, Pa.**

"I believe the best answer to this question, or objection, was given recently by Mr. R. M. Blough, chairman, United States Steel Corp., when he said: 'We believe that the greatest contribution that U. S. Steel can make at this time not only to the national economy but to its customers, its employees, and its shareholders, is to proceed with its current program of capital expenditures without any unnecessary curtailment or delay. By going ahead in this period of slack operations with a minimum of interference to production schedules, the company should benefit from a billion dollar program that, directly and indirectly, will provide jobs for many thousands of people.'"



**"We're manufacturers . . . not investors."**

**Walter Paepcke, Board Chairman, Container Corporation of America, Chicago, Ill.**

Mr. Paepcke has gone on record as not sharing the views of many executives in the paper industry in their insistence on integrating to the point of controlling raw materials. He states, "We would rather use our money for new or more modern manufacturing facilities. We're manufacturers of paperboard products, not investors in timberland. We have considerable reserves; but any time we can purchase things at a fair and reasonable price, we would rather let the other fellow take care of it."





## Profit Margins—A Modernization Yardstick

Before-Tax Profit Margins

|      | All Manufacturing |             |         | All Manufacturing |             |
|------|-------------------|-------------|---------|-------------------|-------------|
|      | % of Sales        | % of Equity |         | % of Sales        | % of Equity |
| 1952 | 9.2               | 22.1        | 1957 1Q | 9.7               | 22.5        |
| 1953 | 9.2               | 22.6        | 2Q      | 9.4               | 21.6        |
| 1954 | 8.4               | 18.5        | 3Q      | 8.5               | 19.1        |
| 1955 | 10.3              | 23.8        | 4Q      | 7.6               | 16.8        |
| 1956 | 9.7               | 22.6        |         |                   |             |
| 1957 | 8.8               | 20.0        | 1958 1Q | 6.4               | 12.9        |
|      |                   |             | 2Q      | 6.8               | 13.9        |

|         | Paper & Products |             | Chemicals & Products |             | Petroleum & Coal |             |
|---------|------------------|-------------|----------------------|-------------|------------------|-------------|
|         | % of Sales       | % of Equity | % of Sales           | % of Equity | % of Sales       | % of Equity |
| 1952    | 13.1             | 24.0        | 14.0                 | 24.9        | 13.2             | 17.7        |
| 1953    | 12.0             | 22.5        | 13.8                 | 24.5        | 13.6             | 17.7        |
| 1954    | 11.5             | 20.1        | 13.0                 | 22.1        | 12.8             | 15.6        |
| 1955    | 12.3             | 23.0        | 15.7                 | 28.0        | 13.8             | 17.0        |
| 1956    | 12.0             | 22.8        | 15.1                 | 26.6        | 14.1             | 17.3        |
| 1957    | 9.8              | 17.5        | 14.4                 | 25.0        | 11.9             | 14.4        |
| 1957 1Q | 10.9             | 19.7        | 15.0                 | 26.3        | 14.1             | 18.7        |
| 2Q      | 9.9              | 18.2        | 14.6                 | 26.0        | 12.0             | 14.2        |
| 3Q      | 9.6              | 17.0        | 14.7                 | 25.4        | 10.7             | 12.4        |
| 4Q      | 8.7              | 15.1        | 13.3                 | 22.4        | 10.8             | 12.3        |
| 1958 1Q | 8.3              | 13.7        | 12.0                 | 18.7        | 9.0              | 9.8         |
| 2Q      | 8.7              | 14.6        | 12.1                 | 20.4        | 7.7              | 7.9         |

|         | Apparel & Products |             | Instruments & Related Products |             | Textile Mill Products |             |
|---------|--------------------|-------------|--------------------------------|-------------|-----------------------|-------------|
|         | % of Sales         | % of Equity | % of Sales                     | % of Equity | % of Sales            | % of Equity |
| 1952    | 2.4                | 10.8        | 12.2                           | 29.2        | 4.6                   | 10.3        |
| 1953    | 2.6                | 11.2        | 11.6                           | 28.6        | 5.0                   | 10.6        |
| 1954    | 2.3                | 9.9         | 11.3                           | 25.3        | 2.9                   | 5.6         |
| 1955    | 2.8                | 12.6        | 12.4                           | 26.0        | 5.3                   | 11.7        |
| 1956    | 3.3                | 16.4        | 12.0                           | 25.8        | 5.3                   | 11.8        |
| 1957    | 2.6                | 13.3        | 11.6                           | 24.2        | 4.1                   | 9.1         |
| 1957 1Q | 2.6                | 12.8        | 10.9                           | 21.9        | 4.6                   | 10.1        |
| 2Q      | 2.6                | 12.2        | 12.1                           | 25.7        | 4.3                   | 9.3         |
| 3Q      | 3.5                | 18.9        | 11.7                           | 23.8        | 4.3                   | 9.6         |
| 4Q      | 1.8                | 9.3         | 11.5                           | 25.2        | 3.3                   | 7.4         |
| 1958 1Q | 1.9                | 8.8         | 8.5                            | 15.7        | 2.2                   | 4.3         |
| 2Q      | 1.3                | 6.3         | 10.0                           | 19.1        | 3.0                   | 6.1         |

|         | Fabricated Metal Products |             | Primary Metal |             | Stone, Clay & Glass |             |
|---------|---------------------------|-------------|---------------|-------------|---------------------|-------------|
|         | % of Sales                | % of Equity | % of Sales    | % of Equity | % of Sales          | % of Equity |
| 1952    | 8.6                       | 21.7        | 10.4          | 19.1        | 14.4                | 25.5        |
| 1953    | 7.9                       | 21.6        | 12.4          | 24.4        | 14.3                | 26.1        |
| 1954    | 6.5                       | 15.7        | 10.8          | 16.6        | 14.0                | 23.6        |
| 1955    | 7.8                       | 20.3        | 14.6          | 27.3        | 16.6                | 30.3        |
| 1956    | 7.8                       | 21.0        | 14.1          | 26.5        | 15.7                | 28.5        |
| 1957    | 7.2                       | 18.7        | 12.4          | 20.5        | 14.0                | 23.1        |
| 1957 1Q | 7.5                       | 19.2        | 14.4          | 26.0        | 13.3                | 20.1        |
| 2Q      | 8.0                       | 21.3        | 13.5          | 23.4        | 15.5                | 26.5        |
| 3Q      | 8.2                       | 21.7        | 11.5          | 17.7        | 14.9                | 26.3        |
| 4Q      | 5.0                       | 12.6        | 10.2          | 14.9        | 12.1                | 19.6        |
| 1958 1Q | 4.9                       | 11.0        | 8.2           | 10.2        | 7.3                 | 9.4         |
| 2Q      | 6.2                       | 14.5        | 9.0           | 11.4        | 13.3                | 20.1        |

|         | Transportation Equipment |             | Electrical Machinery |             | Non-Electrical Machinery |             |
|---------|--------------------------|-------------|----------------------|-------------|--------------------------|-------------|
|         | % of Sales               | % of Equity | % of Sales           | % of Equity | % of Sales               | % of Equity |
| 1952    | 11.0                     | 36.2        | 11.6                 | 35.7        | 11.8                     | 28.0        |
| 1953    | 9.7                      | 38.4        | 10.6                 | 33.6        | 10.1                     | 23.6        |
| 1954    | 9.6                      | 30.6        | 9.1                  | 25.0        | 9.2                      | 18.2        |
| 1955    | 12.9                     | 43.7        | 9.0                  | 25.1        | 10.5                     | 21.3        |
| 1956    | 9.4                      | 28.4        | 7.9                  | 23.7        | 10.9                     | 25.6        |
| 1957    | 9.2                      | 29.2        | 8.6                  | 25.6        | 9.7                      | 21.6        |
| 1957 1Q | 11.1                     | 37.7        | 9.3                  | 28.4        | 10.8                     | 24.9        |
| 2Q      | 10.0                     | 32.6        | 8.9                  | 26.8        | 11.1                     | 25.9        |
| 3Q      | 7.2                      | 20.7        | 8.0                  | 23.3        | 9.5                      | 20.4        |
| 4Q      | 8.3                      | 25.6        | 8.0                  | 24.0        | 7.4                      | 15.2        |
| 1958 1Q | 6.6                      | 18.2        | 6.7                  | 17.8        | 6.8                      | 12.5        |
| 2Q      | 5.2                      | 13.5        | 6.9                  | 18.4        | 8.0                      | 15.7        |

## Unit Labor Costs—A Modernization Yardstick

1947-1949 = 100

|                             | 1952  | 1953  | 1954  | 1955  | 1956  | 1957  | 1958  |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Transportation Equip't      | 112.3 | 111.3 | 104.6 | 103.6 | 102.8 | 101.1 | 95.3  |
| Electrical Machinery        | 96.5  | 98.3  | 93.1  | 93.1  | 97.5  | 100.3 | 102.2 |
| Non-Electrical Machinery    | 112.0 | 112.6 | 112.1 | 113.6 | 116.2 | 117.7 | 118.9 |
| Fabric. Metal Products      | 117.1 | 121.9 | 122.2 | 126.9 | 129.9 | 131.9 | 131.2 |
| Primary Metals              | 114.4 | 118.7 | 121.6 | 117.6 | 126.1 | 134.1 | 140.0 |
| Stone, Clay & Glass         | 104.3 | 106.6 | 104.0 | 104.8 | 105.3 | 107.2 | 110.2 |
| Instruments & Related Prod. | 112.9 | 113.4 | 114.8 | 114.4 | 111.0 | 109.1 | 106.3 |
| Textile Mill Products       | 106.2 | 105.3 | 100.0 | 95.6  | 99.5  | 100.3 | 96.2  |
| Apparel & Products          | 107.6 | 110.3 | 108.7 | 107.1 | 115.4 | 117.1 | 114.8 |
| Paper & Products            | 111.8 | 112.5 | 112.4 | 108.5 | 111.9 | 115.9 | 114.3 |
| Chemicals & Products        | 97.7  | 100.7 | 99.9  | 95.3  | 96.4  | 95.9  | 95.8  |
| Petroleum & Coal Products   | 101.0 | 103.6 | 104.9 | 99.9  | 101.9 | 103.2 | 107.3 |

PLAN **59** Continued

## How to

### Why Obsolescence Is Industry's Big Problem

- Obsolescence isn't always easy to spot.
- Warning signals are often ignored.
- Lack of funds prevents action.
- Refusal to face the business facts of life.
- Psychological factors.

Everybody talks about obsolescence, but nobody does anything about it. This may be paraphrasing a saying about the weather, but it reflects the current situation of American plant and equipment.

The magnitude of the problem has been pointed up by the table on p. 10. There we see that even our most modern industry (chemicals) still turns out its products with 30% of its equipment procured before 1946.

#### I—Obsolescence Is Hard to Spot

Why is it so difficult to spot obsolescence? Mainly because there's a lot of confusion about what the term really means. Everybody agrees a machine is obsolete when it's always breaking down and has high maintenance costs.

But your equipment can be functioning perfectly, with minimum maintenance costs, yet your tools can be outdated.

Why? Because it may not be providing maximum productivity, because it may be making your operations more costly than those of your competitor. This means that in times of growing competition your opposition is going to quote the lower price.

One way to recognize obsolescence is to keep your eye on productivity and labor costs. When the latter start outpacing the former, it's time to start investigating.

Look at the overall economy, and you can see how this imbalance between labor costs and productivity has hurt American businessmen.

The graph at bottom tells the story. It traces output per man hour and hourly wages and salaries over the past ten years.

Two things stand out clearly:

- Over the past ten years hourly wages have increased more than output per man hour.
- Decline in the rate of increase of output per man hour the past two years has caused trouble. That's because labor

rates maintained a high rate of increase.

When the increase in wages you pay a worker each hour exceeds the increase in output the workers turns out each hour, it can mean only one thing, rising unit labor costs.

Consider a worker who turned out ten units per hour last year and 11 this year—and who was paid \$2 per hour last year and \$2.53 this year. The labor cost goes up 15%—from 20 to 23¢ a unit.

The rise in unit labor costs then has been typical of U. S. industry—especially over the past two years. And it's primarily due to a slowing down of productivity increases.

You're own firm can be faring better or worse than the "national averages" shown in the chart. But the fact that the "average" is what it is indicates that the problem of unit labor costs is typical of a wide cross-section of American industry.

#### II—Recognizing the Warning Signals

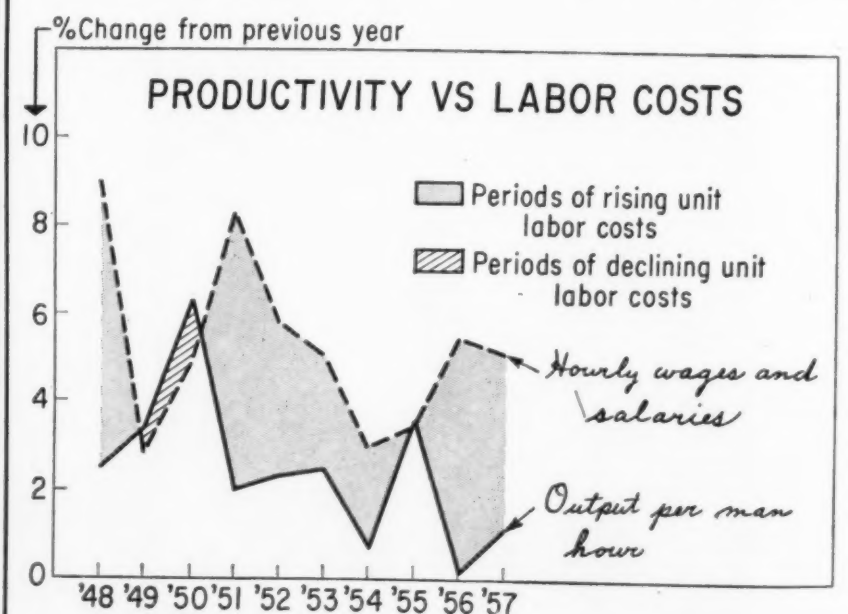
Before effective action is to be taken you have to recognize the various warning signals that telegraph obsolescence. Outside of the obvious "breakdown" and "maintenance cost" signals, there are several dollar and cents signs to watch out for. Your firm's:

- Sales trend.
- Unit labor cost trend.
- Profit margin trend.

Any significant drop in your firm's sales or profits (either in absolute terms or relative to the country-wide trend for your industry) might mean "creeping obsolescence."

By the same token any significant rise in your company's unit labor costs (either in absolute terms or relative to the national trend) might also signal a need for modernizing.

To aid you in your evaluation, PURCHASING WEEK economists have set up overall profit and labor cost trends for most major industrial groups. By comparing





# Weigh Five Key Factors Causing Obsolescence

your firm's performance to that of its industrial group you can get a yardstick of performance—an idea if you're keeping up, running ahead, or falling behind.

Note that profit margin table (p. 24) uses profits before taxes. That's because "before tax" profits give a better indication of your company's health. Taxes take more from successful firms, less from poorer ones—thereby tending to equalize performance.

Moreover, to help you match up your own company's performance with that of its industrial group, we have expressed profit margins in terms of both sales and stockholders equity.

A word of caution: Obsolescence is only one of many reasons why unit labor costs and margin positions may be disappointing. Therefore if use of the tables shows something wrong, you can't automatically place the blame on old equipment.

For example, if unit labor costs rise above the industry average it could mean that a firm's equipment is less efficient than that of competitors. But it might mean higher than average labor rates were forced on your company.

For purchasing executives—even if analysis doesn't indicate inadequate equipment—these tables can be of great value. For familiarizing yourself with this type of analysis give you the tools necessary for a management-type evaluation of capital equipment.

## III—Lack of Funds

Sometimes, even when you do find your capital equipment run-down and inefficient, there's nothing you can do because the cash to replace it just isn't around.

The situation is particularly acute for smaller firms where credit is harder to come by. Whether it's borrowing from a bank, floating a bond issue, or even equity financing, the financial problems grow larger the smaller you are.

But that's not to say they're insoluble. Steps are already being taken to help the situation. Tax write-off rules have been eased slightly this year, and small business capital investment companies are soon to be set up.

Moreover, the entire depreciation set-up is undergoing re-evaluation in Washington. Aim is to give companies larger write-offs each year, recognizing that machinery today becomes obsolete at a much faster pace than say 20 years ago.

Full details on credit outlook—including interest rates, availability of money and depreciation rules are given in the p. 30 story.

## IV—Economic Facts of Life

But even if cash is available, there still are formidable roadblocks to a progressive modernization program. The failure of some executives to face up to the basic facts of business life today is perhaps the most serious of these. Some old-fashioned companies still consider changing equipment only when new orders outrun capacity.

Others don't even think of change while current equipment can be operated profitably. These firms represent the "we're making money so why worry about it" school.

Still others who fail to face up

to reality shrink at the cost of new equipment. The initial price is enough to scare them off before they even make cost comparisons which might prove the new machine a lot more productive in the long run.

Trouble with this type of view is the management usually wakes up too late. The time to act is when you're still in the black.

## V—Psychological Factors

Finally, in any analysis of rea-

sons for obsolescence, you can't eliminate the human element. Psychology and personal motives play a bigger role than many executives like to think.

Nobody likes to stick his neck out. Many who are in a position to follow up on a modernization program sincerely believe new equipment is important and necessary. But they're afraid of stepping on the wrong toes.

The problem is compounded today by the facts of big busi-

ness. A new piece of equipment may cost upwards of \$100,000. Nobody wants to make a mistake on such a costly item.

## To Be Considered

But just because there's so much at stake, it's doubly important to make a "considered" decision. "Do-nothingism" is tantamount to throwing in the sponge in the long run.

There's no pat rule of combatting this serious problem. Sociol-

ogist and business consultants have written reams of material on the subject.

Best policy is to develop a competent staff, and build confidence in it via a system of fair and impartial rewards.

PLAN 59

CONTINUED

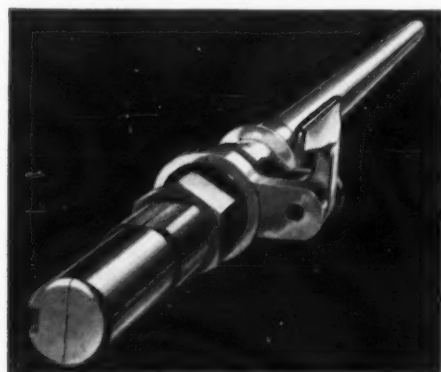


## WHAT'S NEW WITH ALUMINUM

*A page of novel and cost-saving applications for the interest and information of the purchasing agent. If you would like detailed literature on each subject, mail the coupon below.*

### 1. Split-Base Textile Spindle

This new money-saver, developed by the Hartford Machine Screw Company, features a unique two-piece ball bearing housing of rustproof, easy-to-machine Kaiser Aluminum. When re-lubricating time rolls around, all the operator has to do is remove 3 simple screws to get at the bearings—and the job is done!



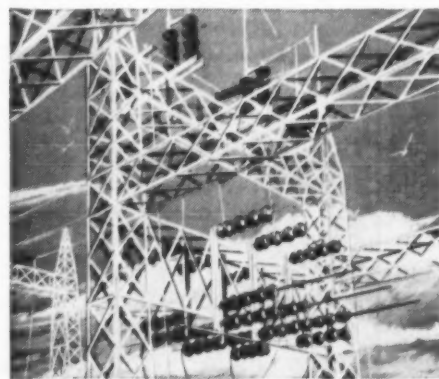
In addition, the spindle's lightweight aluminum blade reduces stop-and-start inertia—cuts vibration and power needs in high speed operation. Life expectancy: 30 years!

### 2. Low-Maintenance Substations

Extremely corrosive atmospheres need no longer raise havoc with substations, thanks to rustproof, corrosion resistant Kaiser Aluminum.

Until recently, most substation structures were constructed of steel—and often required an average of 2 protective paint coats every 5 years, especially in corrosive atmospheres.

With aluminum, on the other hand, a thin hard oxide film forms on the surface, a film that shrugs off the ravages of industrial and marine atmospheres. No paint is needed—upkeep is nil.



Result: Because substations made with Kaiser Aluminum eliminate the cost of maintenance, their total cost over the years is actually far less than that of steel.

### 3. Strong New Weldable Alloy

For America's heavy industry 5086 is proving a lucky (and profitable) number. It's Kaiser Aluminum's versatile new aluminum alloy—approved by the ASME in case No. 1222 for the welded construction of unfired pressure vessels.

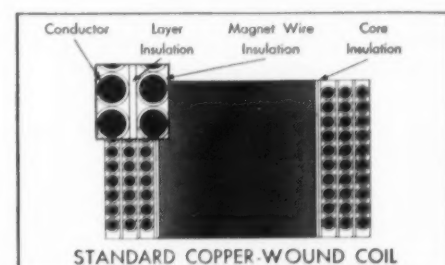
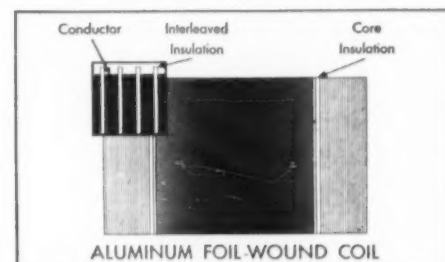
Available in plate and sheet form, 5086 lets manufacturers take advantage of aluminum's light weight, strength and corrosion resistance in a wealth of new and diversified applications.

Typical new uses for 5086: petroleum tanks and processing equipment, missile containers, box car doors, heavy duty van trailers and water storage tanks. Mail coupon for full facts.

### 4. Compact Foil Coil

Today's newly-developed electromagnetic coils (wound with aluminum ribbon and interleaving strip insulator) offer several cost advantages over conventional copper wire coils.

Prime money-savers: aluminum's substantially lower base price... its favorable weight-conductivity ratio... the use of more economical insulation... simplified winding techniques.



Moreover, the unique layer-to-layer winding of aluminum coils saves valuable space and weight. And aluminum's superior heat-transfer characteristics virtually eliminate hot spots, permit 20% cooler operation.



Please send me detailed literature on the subject circled below:

1. Textile Industry
2. Aluminum Substations
3. New Alloy 5086
4. Electromagnetic Coils

Kaiser Aluminum & Chemical Sales, Inc.  
Dept. P-949-W, 919 North Michigan Avenue  
Chicago 11, Illinois

NAME \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_





ROBERTS—"I think we all have to be familiar with what type of operations are going on in our company."



STEWART—"I think any modernization program is thinking today in terms of handling equipment throughout."



HAWKINS—"We presented the idea of a PBX system to the accounting department. We knew it could pay."

## PLAN 59 *Continued*

# Conferees Suggest Areas Where

Modernization is a never-ending process for most purchasing executives. They are constantly involved in buying the equipment and services that enable their companies to produce better and more efficiently. The techniques they bring to bear are the same whether or not their companies are engaged in a modernization program. But some of the techniques need special emphasis when related to modernization.

Conferees at a recent roundtable of purchasing executives, conducted by Purchasing Week at Cleveland, agreed (see end of this page for their remarks). They believe these are the areas in which purchasing can make a definite contribution to modernization: selection of vendors, expediting delivery, installation, and service.

• **Selection of vendors**—Purchasing should be in a position to know about alternate sources of supply. Knowledge of vendors and their capabilities are essential. Visits to vendor plants show the alert purchasing executive whether or not the vendor has the ability to produce. Besides the vendor's production ability, the purchasing executive will want to know about his financial responsibility.

Visits to the vendor's plant help clarify points made by his salesman. The latter doesn't always know precisely purchasing's requirements or how his products can meet them. But a visit gets at the answers.

There's another benefit that is directly tied to modernization. The visits sometimes turn up new methods worth considering for adaptation to your company.

At best, touring plants is time consuming, and not all purchasing executives make it a practice. But there is no question about its value. Armed with a knowledge of all his vendors' means to produce, the P.A. is certain to be able to pick the best vendor.

• **Expediting delivery**—The most modern equipment doesn't mean much unless it gets into production on time. Purchasing can make a big contribution here. Its job is to negotiate delivery. But production and management can benefit from information beyond just an expected delivery date. For instance, reports detailing the vendor's progress in making the equipment spotlight unforeseen delays. They'll also help production keep a

close watch on its own schedule for making preparations for the equipment.

• **Installation**—Because purchasing is the company's closest contact with the vendor, it is best able to secure the information needed for installing new equipment. More than likely, the production department can make preparations while it is waiting for the new equipment. It is up to purchasing to obtain the necessary information such as layout, foundation plans, electrical requirements. Purchasing will also want to make sure that if the vendor sets up the new equipment, his crew is covered by insurance.

• **Service**—It's up to purchasing to insure that its company gets a guarantee against defective workmanship on standard components of all machines it buys. When purchasing orders a number of the same kind of machines, it should see that components are not made by different manufacturers. It would mean stocking more spare parts and complicating repairs. The machine's accessories, too, should be subject to question. For instance, are they obsolete? Do local distributors stock them? Or are they available only from a distance?

Basically purchasing functions in a modernization program as the "eyes and ears" of other departments. How well purchasing carries out this function makes the difference between a useful contribution to modernization and one that is only mediocre.

To start with, the purchasing executive must be thoroughly familiar with his company's operations—its products, manufacturing techniques, and distribution. Then he has to stay alert to new products and developments that can help his company produce more efficiently. Salesmen callers, of course, are an important source of information. There are others—trade publications, associations, vendors visits.

All this information that the purchasing executive gathers means little until it is passed on to the right people in his company. Descriptive literature on new equipment, even digests of salesman interviews are two devices that can be used to keep people informed of modern products and processes. And personal contact with other department heads is still one of the best means of communications. Not only does purchasing see that the right people get the information it collects, but it stands ready to seek additional information.

Purchasing brings its knowledge and ability to bear on modernization in still other ways. Standards are a choice problem for purchasing to attack. If purchasing buys a number of machines to perform the same function, it should standardize on one type of machine. It's not always possible; and while it looks like favoritism, it will save money and time in spare parts and maintenance.

Purchasing is obligated to seek and promote standards for the many components that go into both the products it buys and the products its company makes. For one thing, modern new equipment tends to become more and more complicated—difficult to operate and maintain. Parts, standardized wherever possible, reduce these problems.

Another area open to purchasing is traffic. Most companies have a traffic department. Purchasing and traffic generally work closely together. But purchasing is in a position to make some cost savings through transportation on its own initiative. A slight increase in purchase quantity, for instance, could permit changing from one form of transportation to another and thus taking advantage of lower rates. And transportation knowledge assures arrival of equipment on time.

### These Purchasing Executives Participated in Purchasing Week's Cleveland Conference

Richard Roberts, Fellows Gear Shaper Co.  
John Stewart, Greenlee Brothers & Co.  
Ira Habeshian, LaPointe Machine Tool Co.  
Basil Hawkins National Broach & Machine Co.  
Wayne Hamlett, Continental Machines, Inc.  
Fred Sicksteel, Ex-Cell-O Corp.

## Here Is What They Said—

**Sicksteel:** As machine tool builders, we are continually modernizing in our plants. Many times we are improving machines we have because we are machine tool builders and have the facilities with which to make improvements of our own.

**Moderator:** In this constant process of modernizing, what are the things, what are

the techniques, the tools that you use?

**Hamlett:** One policy that we have adopted is the purchase of brand new equipment as against used equipment.

**Moderator:** Can you cite, Mr. Hamlett, any individual case where it paid to buy new equipment?

**Hamlett:** We had four or five turret lathes which we have been using for pretty close to ten years, and we just replaced those with some chucking machines. We have been able to save up to 40% on all parts that we ran on those machines in the past.

**Moderator:** How did you or your management arrive at a decision to buy these machines?

**Hamlett:** Because the cost of these

parts was running high and we were being pressed to get out work. We needed more production.

**Habeshian:** I would like to state an example of what we have done. In our steel room back in '56 we were using four power hacksaws. Well, they might have been anywhere from 30 to 40 yrs. old. We bought a new machine and since then we have thrown out all the power hacksaws, and we do all our steel cutting with that plus an abrasive cutoff machine.

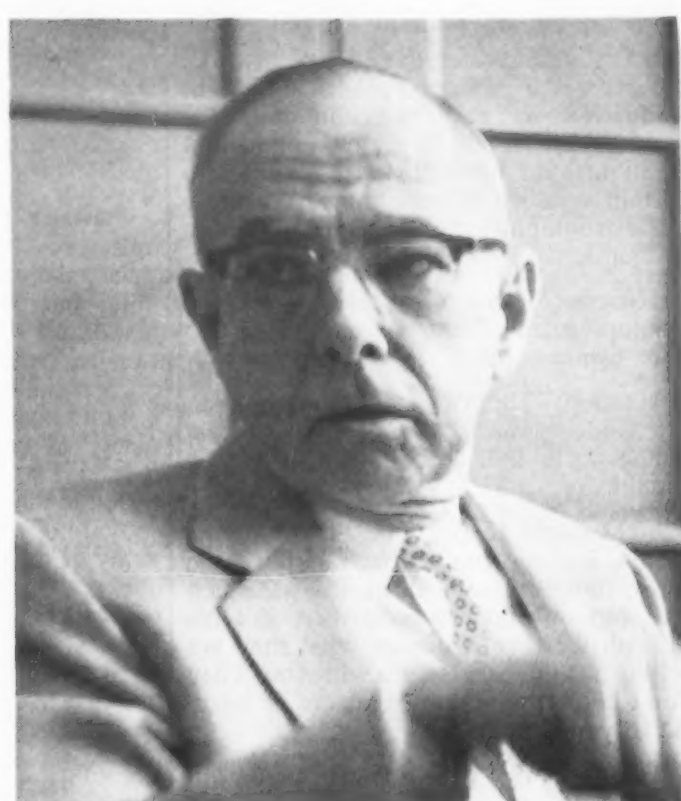




**HABESHIAN**—"We get rid of obsolete equipment because we know it costs us money. That's modernization."



**HAMLETT**—"The purchasing agent shouldn't fail to keep abreast of new products and new developments."



**SICKLESTEEL**—"Purchasing should be the eyes and ears of manufacturing because we are in the front row."

## P.A.'s Can Contribute to Modernization

Now, that's modernization. We got rid of obsolete equipment because we knew it was costing us money to use old and antiquated equipment.

**Moderator:** Well, in these experiences what did the purchasing department do, how did it enter the picture?

**Hamlett:** I have tried to approach it from the standpoint of a literature file.

We maintain a large literature file in our department. We have it included in our central filing department which is under our supervision, and we just keep literature on all these machines that we think there is a possibility we might need. If anyone comes down and says, "Have you got anything on this?" And you've got it, so immediately you're in the picture. When it gets to the point that they know what they want, it's up to us to go out and contact the salesmen and maybe get up-to-date literature.

Maybe the literature you have is a little bit old, price lists, and in my particular case we turn it over to the tool man. We talk it over or he talks it over with the president, or the president comes down and asks them what's going to be done with it. Through that the decision to buy a certain machine is made.

**Habeshian:** Along the same line, what we have done is that any machine tool salesman that comes in with something new or any salesman that comes in, I'm interested.

So any new machines that come out, we get at least a half dozen brochures. We send one to the executive vice president, the plant manager, the superintendent of the department that the machine would fit in. We pass along all this information we get which I think contributes to the ultimate purchase because many times a department manager may come up and say, "Well, here's a new tool. Let's get some more information on it. Let's get a price."

Then all those things are hashed over in the upper levels of management; and if they decide it's time to buy, we buy.

**Moderator:** But for you to be able to do that you have to be aware of the needs of the different departments within your company.

**Habeshian:** We don't always know that there is a need, but sometimes there is something brand new introduced. It may

be a small tool, it may not be a machine, we send it out to the department we think may be interested.

We did that recently on an electric limit gauge. There was no idea of when we would need it, but within a half hour the chief inspector came running up, "This is what we need. We can use this right now."

**Roberts:** I think we all have to be familiar with what type of operations are going on so if somebody comes in with something that's entirely foreign, we can weed that right out right at the start.

**Stewart:** I think there isn't any question but that one particular thing we do offer is the suggestion of an alternate source to consider.

**Habeshian:** Delivery enters the picture, too.

**Roberts:** Stocking of repair parts for several makes instead of one is a problem in some cases.

**Habeshian:** Don't you also find that most of your plant managers are looking for standardization of machine tools?

**Hamlett:** That has a tendency to make you look like you are limiting your purchases to one particular type of machine, but it's done because you are saving time and money.

**Sicklesteele:** I think you're coming to an interesting point. The purchasing department should be the eyes and the ears of the manufacturing, because we are in the front row. We find that usually we challenge a man calling on us as to why we should use his machine instead of the one we've got. Let him bring out the points of importance. Well, you probably talked to the men who come in and say, "We are pretty much standardized on So-and-So's machines," but you come to find out they have ways of getting around that, too, and they say, "Did you know that we furnish our machine to take the other man's collets?" And it's quite true.

Sometimes the men in the shop don't know that. There are times that they would rather have the features of another man's machine, but they are a little afraid of getting caught on the tooling costs. So I feel there that the purchasing department in trying to be the eyes and the ears of the men in the shop can accomplish something.

**Stewart:** I think any modernization program today is thinking in terms of handling equipment throughout and that's due largely to the fact that all of our plants have been expanded. Consequently, you need equipment to get around your plant, electric trucks and things like that that you didn't.

**Hamlett:** Well, one of the things I think the purchasing agent can do, and he shouldn't fail to do, and that's certainly keep abreast of the new products and new developments and that is actually modernization in one sense of the word.

**Moderator:** The purchasing department acts pretty much as a focal point for all this information. How is this passed on to other departments?

**Sicklesteele:** Since literature is bulky and hard to handle, we will quite often make summary notes of the interview and we bulletin if no more than to say we interviewed so and so, and it will do such and such. If any of you are interested, then we will get you full information. It's surprising where the interest arises even where we wouldn't have sent the literature.

**Hamlett:** We use a lot of threaded parts. I got some prices on some rolled threads. Well, nobody in the plant wanted rolled threads.

So I had this fellow send me a shaft with Acme 1-in. rolled threads which I didn't think were possible. We got it in and passed it around. Everybody looked at it and liked it, and it's cheaper. Now we are going to use it. It's cheaper than our previous ground threads, but I had to get something in to show them, something tangible to hold in their hands.

**Habeshian:** Along those lines, here's what I have done. I will ask for an evaluation of the new product, so I will understand whether or not it's worthwhile pursuing it any further. We try to get a return answer from every brochure that we send out so that I am educated as a new product is introduced in the shop.

**Stewart:** Recently we have promoted an investigation into possibilities of bulk stores of oils and other liquids versus drum. In buying in drums of course, there's a substantial saving. That is one of the first things you get interested in, and you call in the vendor and see what savings can be obtained. Then you find

out what equipment is needed, and you can talk to your shop people to see if they can put in bulk stores and so on. We worked it up recently, and it's very interesting. I'm sure it's one of the first things that we will be going into soon.

We also recently investigated the handling of our scrap. We took some of our shop people, and went to the different scrapyards to see their methods of handling it. We changed our method of doing it in order to cut down the number of hours needed to load a car.

**Sicklesteele:** Here's another thing to consider. You talk about your bulk oil storage. Many of our plants have grown so much, but they can't grow the real estate to support them. So they, therefore, have to make more use of what they've got. An underground tank certainly does away with losing space.

**Stewart:** Well, with the increased efficiency of the trucking industry and its offering very competitive rates with rail, you find that you can buy full truckloads. In other words, by increasing your purchases slightly you go to a truckload rate, make a very substantial saving. Purchasing and traffic work so close together in most companies that there are many, many times that we are the ones that instigate investigations on that part, and the shop is generally very willing to go along.

**Hamlett:** I think one of the big contributions that a purchasing department can make is a special expediting service on all equipment. We try to give the shop a little extra service on that, keeping them informed of any delivery information, any delivery delays so that they will know exactly when the equipment will be in.

**Habeshian:** One of the things we push is getting the layout of the machines so the maintenance can prepare.

**Sicklesteele:** The purchasing department is always hounded on delivery of parts we can't anticipate, and the question arises, "Why don't you make it?" First of all we investigate our equipment for doing it because we would like to know how much of a proposition we are trying to ask the management to look into. Sometimes we have had that done. I might say as purchasing men we visit

(Continued on page 28)



(Continued from page 27)  
venders plants, and the reverse is true. I'll get out in vendors' plants, and right away it's so very noticeable in the vendors' plants and in my own mind that I am making the decision to switch to certain vendors because they have more modern equipment to do a better job more economically.

**Roberts:** You also see methods in your vendors' plants. That you can suggest to your own company.

**Hamlett:** There's a point that you can bring out because I don't think purchasing agents do half as much of that as they should.

**Sicklesteel:** In going into the vendors' plants, I think you fellows all have the same thing; that most of the salesmen that call on you are good men, but it's difficult for them to know what they are selling has the best chance with you. They don't know the features that are of interest to you.

**Hamlett:** We always try to get a Dun and Bradstreet on a new supplier just to

be sure we weren't dealing with the basement fellow or a back alley shop. You don't dare go ahead and place orders until you know he is able to produce or financially able to produce, and that's up to us to determine.

**Stewart:** Don't you think, though, that most progressive companies today have a very definite modernization program in mind and perhaps even have it down in black and white what they intend to do. In more recent years it's been an emphasis on a plant expansion, physical additions of buildings and so on, but now they have plenty of capacity. Now from here on it should be an emphasis on perhaps better equipment, better materials handling, something within the plant. Certainly many of us were somewhat inadequate in our physical makeup in the past years with all this good business that we have had.

Now we have expanded, and it looks like that from here on the emphasis would be on modernization, new plant equipment, replacement, and certainly materials handling to cut down your labor cost.

**Habeshian:** Going along on that, I have talked to sales quite often. This past summer we have had several requests for quotations from various manufacturing firms, and then when you talk to a fellow purchasing agent in a machine tool company, they are having the same particular quotations. It seems that most of these companies are all doing job evaluation work, cost analysis work, which is, let us say, a method of modernization. I think we are all looking into the future and trying to analyze whether this machine is better to put into the plant than another machine on a competitive basis.

**Roberts:** Well, there's another field, accuracy. We are continually coming out with new machines, various types stressing accuracy, closer accuracy; so we've got to be on the lookout all the time for better methods of gaging and measuring.

**Hamlett:** I think there's a definite trend in that direction, and I think it's brought about by the improvement of machine tools. You are getting to closer and closer tolerances all the time, and you've got to have instruments to measure.

We have noticed there is a steady build up, increase in the purchase of gage blocks which indicates that people are thinking more in terms of accuracy.

I think one of the places where purchasing can be of a lot of service is in

getting an order written up correctly regardless of who decides on the machine or who writes the requisition.

We list all the standard equipment that comes on the machine, and one of the big important things, I think, is this matter of post installation servicing. What kind of a guarantee is your order going to carry against defective workmanship and parts for a year. We put that clause on every purchase order for equipment, and we get kicks back at it an awful lot.

**Stewart:** Like electric specifications, frequently they are quoted on one voltage and you are operating on something entirely different; and if it isn't checked, you get the wrong type.

**Hamlett:** Which means you've got to clear through the plant electrician.

**Stewart:** And then check with your traffic department regarding routing particularly if its large equipment and then with the vendor to see if he has insurance to cover his man while he is in your plant setting up the machine. That's something on which we have always insisted.

**Sicklesteel:** Our requisition is really a questionnaire with a lot of questions as to this new equipment. Will it replace equipment. Will it require plant rearrangement and have you checked other departments to see if facilities are available? Who did you check and what was their reason? What product is it going to be used on? We have had the situation of wanting to buy a machine with another one in the other plant.

**Habeshian:** That would happen in larger plants. In ours we are so closely knit, we contact each department concerned personally.

**Sicklesteel:** I think the purchasing department has another angle in there, too. Many machine tool people buy a lot of components they put on their machines, and I think we as buyers of machines have a right to squawk sometimes about some of them because there comes a day for service. The purchasing department keeps watch on things we buy, we take a good look at the attachments which the machine tool builder had to buy from somebody else because he might have bought something that is going to be difficult to get service.

That is a little side angle on purchasing function in modernization.

**Moderator:** How much do you gentlemen do in specifying the mode of delivery on your purchases? Do you specify the type of transportation?

**Hamlett:** Yes.

**Moderator:** Do you specify the individual carrier?

**Hamlett:** Yes, we do in Minnesota. We have to.

**Hawkins:** The demand on your facilities for loading is important, what kind of truck or car you might order could mean extra cost for rigging or demurrage.

**Stewart:** It's very obvious that purchasing people are familiar with traffic. If you have a traffic department, it's best to use them.

**Hamlett:** See, all that influences the timeliness of equipment and so forth; so it works back into your modernization program.

**Moderator:** I don't think we fully explored the newer products or techniques for which purchasing should be on the lookout.

**Habeshian:** Standardization is a problem, I think, not only externally but internally also. I know that we try to cooperate as closely as we can with engineering.

It's an educational program between purchasing and all the other departments in your plant, and you can't say that it will ever stop. You've got to keep it up all the time. It's a constant education and cooperative effort.

**Hamlett:** We have a little technique that we have adopted a couple of years ago that has worked out very well for us. We set up a man in our department whom we call the liaison man between purchasing and engineering. We do have a standard parts book which lists every part that we use, like belts and bolts and screws and sizes and things like that. Anything that doesn't appear in that standard parts book, the engineer has to send down an inquiry to this man in my department explaining what he wants, or what he wants this thing to do, or how big it should be. This boy goes out and gets prices from two or three people and gets the information. He sits down with the engineer, and they decide then which they are going to use.

Well, that settles it as far as our source is concerned. We have had the say on the thing; so when it goes through the very detailed process of release through purchasing down to production control and when the card comes back to us with the quantity for the particular production schedule, it shows the source that we decided on and the price.

## SLASH GLOVE COSTS

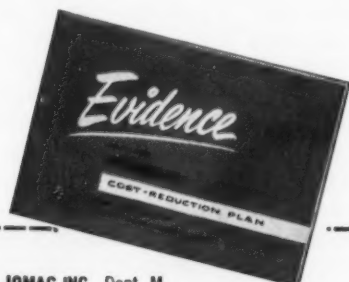


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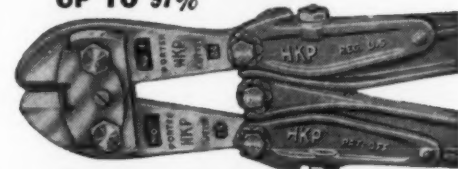
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**Moderator:** Where did that man come from originally? Did he come from engineering or purchasing?

**Hamlett:** No, he's a purchasing man.

**Stewart:** Another phase of modernization that we've gotten into in the last couple of years that might be interesting was that purchasing and traffic got together and bought short wave radio equipment for all of our station-wagons and trucks operating within the area of our plant. We're getting tremendous efficiency out of this equipment.

We are probably the first industrial company in our area to have it. It's being commonly used by your police department, taxicabs, and, of course, many people who have a continuous running system of trucks, such as in the construction industry, but I think we are one of the first industries to use it.

**Moderator:** This is another clear cut sign of modernization.

**Stewart:** Another thing that we are in the throes of doing borders on modernization. We have a Polaroid camera in the receiving department simply because if a bad order shipment arrives, the receiving clerk, instead of having to call purchasing personnel out, takes an immediate picture. He's got a photograph to tell his story of the condition in which the shipment arrived.

**Hamlett:** We bought one about six months ago and we use it for taking spot inventory in steel racks. You take a picture of the end of the bars and you figure your inventory from that.

I was at a forge plant where they stored their steel outside. That's the way they took inventory. Of course, they standardized on the length of bars.

**Roberts:** Well, another thing, getting into the accuracy and measurements, temperature control rooms where you hold the temperature at a certain constant temperature, that's coming more and more. We are investigating that now.

**Moderator:** Another thing that comes to mind and that's tape-controlled machines. Your companies more than likely build these machines, but how about purchasing people in other manufacturing industries? What would they have to know about tape controls?

**Sicklesteel:** On the matter of tape control, we are into it pretty deep, and it covers an awful range even from the big business that makes these spars for airplanes to the devices that make cams and blades. It's interesting that a number of smaller versions are coming out so that I think that even our machine tool shops might use them.

**Moderator:** There seems to be one impact or effect that tape-controlled machines may have on purchasing, and that is that it may cut down on inventory of spare parts. Rather than storing these things, you could store a tape and just feed the tape into the machine to make the part.

**Hamlett:** We are thinking about the use of tapes for writing purchase orders.

**Moderator:** Would you consider this one of the coming things in purchasing?

**Hamlett:** Yes, I think it's definitely coming.

**Habeshian:** I think we are all utilizing copying machines in purchasing. I know we do. It's the quickest way of running off extra copies.

**Moderator:** We have been talking about modernization in terms of equipment. How about modernization in terms of procedures?

**Roberts:** There's another point, employee comfort, which is getting more and more important in companies with the demands of unions and so forth. You've got to cater to them and modernize.

**Hamlett:** We have kept abreast

with the telephone company's progress in different types of telephone communication systems in the plant and we have been in a position to advise management of what it's going to cost to do, to change to a PBX system which will cut down wasted time by being able to dial.

**Hawkins:** Those PBX boys originally called in and offered it to us, and we presented it. Our accounting department checked through their telephone invoices for a certain period to see what it would eliminate, and we knew as soon as we bought we could pay it off in five years because we knew what the expenses were for those extra phones use.

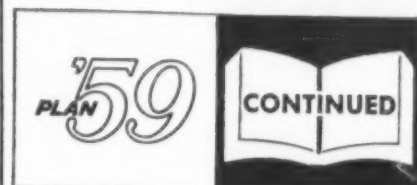
**Hamlett:** Another device we have used, we have bought a couple of little dictating machines that you can clip a microphone on your lapel and put the unit in your pocket and go out to take a spot-sight inventory.

**Moderator:** Can you see any possible rearrangements of purchasing organization coming in the light of changing technology.

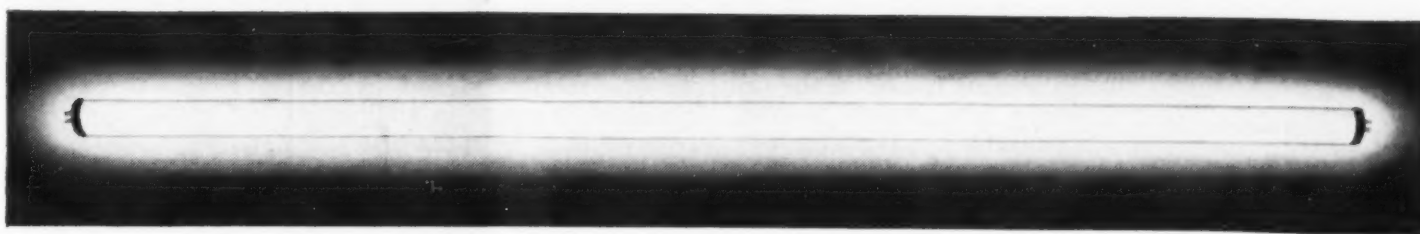
**Habeshian:** Yes, I do. Maybe I'm, let's say, prejudiced in a sense because basically I have an engineering background, and I feel that the next man that I have the opportunity to take on, I would want an engineer to be a liaison between engineering and

the shop and everything else.

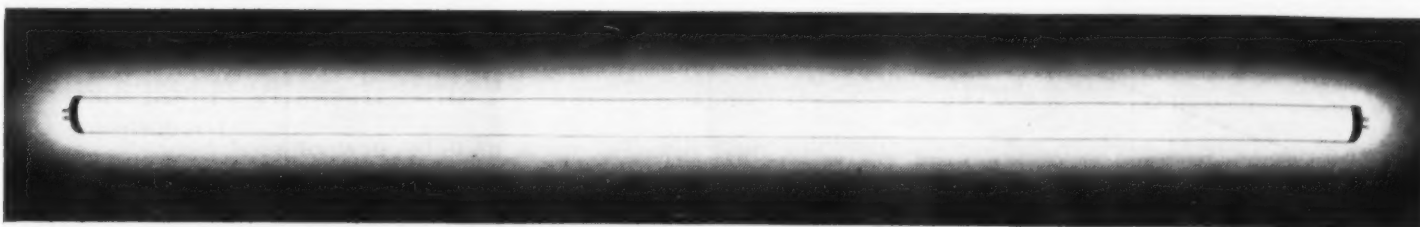
But of course, it's going to take a lot of training to get him acquainted with the purchasing phase of the business, but I feel that that's going to be a definite asset to all purchasing departments because as everything is becoming more and more automated. A man with engineering know how will be of great importance and value to his company.



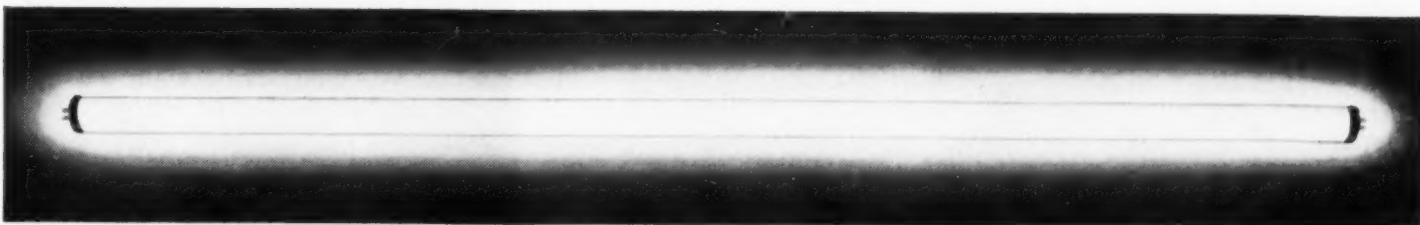
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# Many Ways To Get Money Make Modernization Feasible

Depreciation Allowances Big Source of Revenue for Capital Goods; But Bank Loans, Bonds, Stocks, and Inventory Cutting Play Part

A basic factor in any plan for modernization is the money to finance the expenditures. This factor has become a problem for many industrial firms in the past few years, particularly where money must be obtained outside the firm.

But both the internal and external money pictures, discussed below, are changing, creating new opportunities, as well as problems for most businessmen.

## I—Borrowing from Outside Sources

For those who have to go outside, the tight-money situation that many firms faced in 1957 may be with us again soon. For the Administration is again becoming deeply concerned with inflation, and recent money tightening activities on the part of the Federal Reserve Board may be an indication of things to come.

Obtaining the proper financing may be your basic problem in launching a modernization drive. Manufacturing plants which are most obsolete are those which find a modernization program most difficult to finance.

So although credit has been easier during 1958, many firms have still found it difficult to obtain funds through normal banking sources. And the pure economic facts of the matter are that money is likely to get tighter and more expensive rather than looser and cheaper in the months to come.

## Interest Likely to Rise

On the cost of borrowing side, increases in interest rates charged by most banks will probably continue to come in the near future. The Federal Reserve System is partly behind the rise in its drive to stem any inflationary trend.

The Fed has already approved a boost in the discount rate charged by Federal Reserve Banks. The discount rate is the fee charged by the Federal Reserve System on loans to member banks. If their fees are raised, banks then must charge higher rates to compensate for their higher borrowing costs.

Another reason for the expected increase in interest rates is upped demand for funds from business. The current business revival and the usual fall upturn are behind this factor.

But declining bond prices are also having their effect on demand for bank funds. Most firms who need outside money for the financing of plants and equipment usually obtain it through long-term debentures. However, the weakness in bond prices, caused partly by the Fed's move toward tighter money, is leading many firms to the banks rather than to the bond market for

needed funds. This further intensifies bank loan demand.

Another sign of a coming increase in bank rates has been the rise in short-term money market rates. Until recently this method of borrowing was much cheaper than bank financing, but commercial paper rates are now about on a par with bank rates.

This has caused many firms to go to the banks instead of into the short-term money market. And the same is true in the case of many firms which normally use banker's acceptances, rates of which are now above average bank loan interest charges.

All the above factors then point to continued rise in bank interest rates. So you may find that launching your modernization plan now will save you a good deal of cash in cheaper interest charges.

## II—Internal Financing

But the absence of sufficient credit through regular financial channels or from stockholders need not necessarily nip your modernization plans in the bud. The facts are a majority of the expansion and modernization funds of U.S. business come from internal sources.

In the five-year period from 1953 through 1957, U.S. corporations, excluding banks and insurance firms, invested some \$135 billion in plant and equipment. Over \$115 billion for these expenditures came from internal sources (retained earnings and depreciation allowances).

Of these two, depreciation has become the most important source of internal funds for modernization and expansion. In the five years ending in 1957, depreciation accounted for 64% of total invested internal funds. Depreciation's share climbed from 60% in 1953 to 69% in 1957.

## Depreciation Means Cash

In 1958, because of lower earnings, depreciation may provide four times as much cash as retained earnings for modernization and expansion.

The future holds more of the same. In the next few years both rising costs and increased competition are likely to keep down profits. So depreciation allowances will probably continue to provide most of the cash for modernization.

This year particularly finds most businesses in excellent position to use depreciated funds for modernization and expansion. For 1958 will be the first time since World War II that plant and equipment will be depreciated faster than it is being replaced. (see chart)

Depreciation in 1958 will

probably outpace new investment by some 1%, compared with last year when it trailed new investment by close to 10%. Total depreciation this year is likely to reach \$40 billion, some 6% above the 1957 total.

## III—New and Proposed Depreciation Rules

Another factor which will boost depreciation allowances is the law recently signed by the President. It grants an additional write off of 20% in the first year on the purchase of machinery, equipment, and other tangible property except buildings, real estate, and inventories.

The deduction covers the first \$10,000 in acquisitions (\$20,000 in the case of joint husband-wife returns for unincorporated businesses) and is subtractable from the original cost of the purchase to determine the base for normal depreciation. The provision is also limited to assets acquired after Dec. 31, 1957 with a useful life of at least six years. But the assets may be new or used at the time of acquisition.

Although the above provision has been heralded as a "small business" aid, don't be misled by this labeling. For the new regulation can be used by all businesses no matter what their size happens to be.

## Propose to Ease Depreciation

Many businessmen feel that this new depreciation regulation may be the first wedge in getting Congress to ease depreciation regulations. They propose a number of new or revised regulations to accomplish this end.

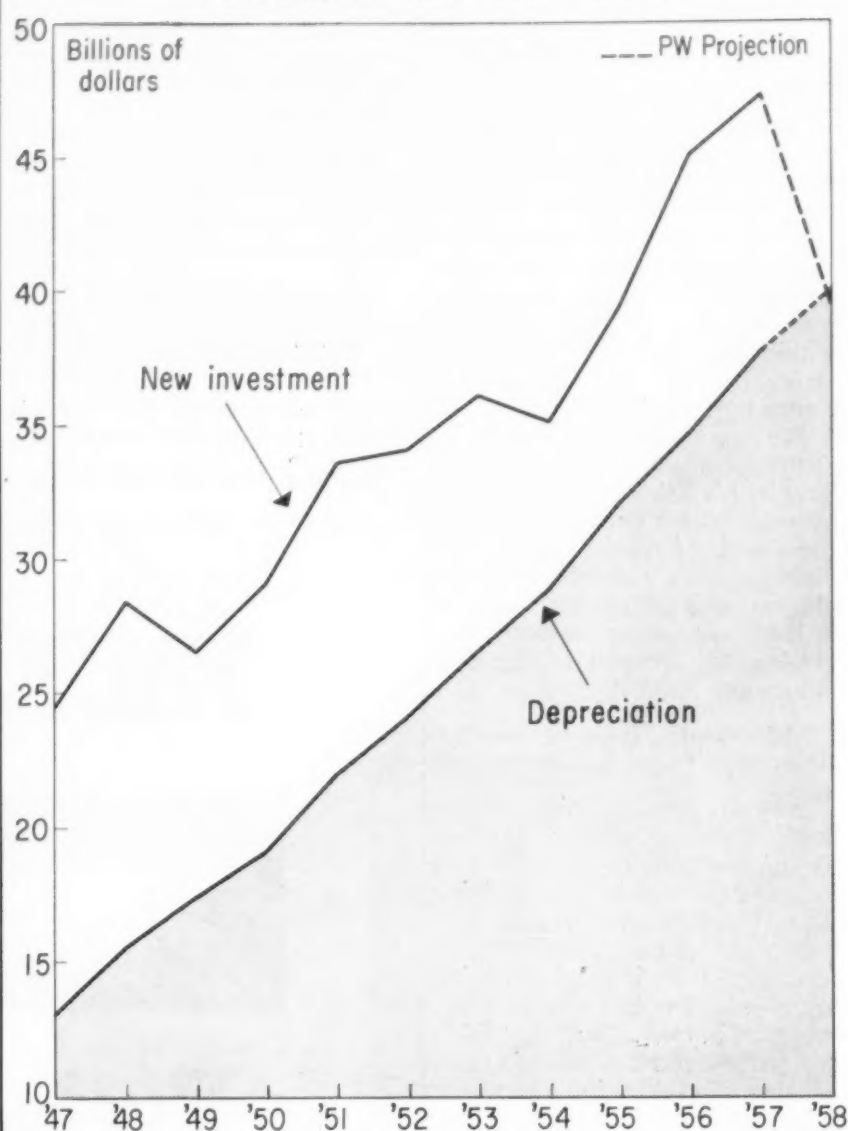
One of the principal current objections is that fast depreciation formulas do not apply to used equipment. Coverage of this equipment would be of great help, especially to many small businesses and construction firms.

Another suggestion is that details on the "useful life" of equipment for depreciation purposes should be updated in the light of today's changing technological picture. Many of the current equipment depreciation formulas are outmoded in the light of the time that certain equipment now becomes obsolete.

A third major suggestion is that depreciation allowances should cover the cost of equipment replacement, not merely the amount of the original purchase. Rising costs have caused depreciation charges to fall far short of replacement value in many manufacturing areas.

In any case, U.S. industry is greatly in need of more liberal depreciation policies. For as the article "How Modern is American Industry" on page 9 ex-

## DEPRECIATION RESERVES—SOURCE OF CAPITAL FUNDS



plains, the current obsolete state of American plant and equipment creates a major future problem for the entire nation.

## IV—Small Business Investment Loans

But even if your firm is one which will not benefit greatly from the new depreciation regulation or does not have adequate funds from normal depreciation reserves, there are other ways to launch your modernization drive.

One method of financing for small business will become available early in 1959. That's the new small business investment companies, formation of which was authorized under an act recently approved by Congress.

The bill provides for a \$250-million revolving fund to help underwrite a system of private capital banks. Their sole purpose will be extending long-range financing to small business.

The first \$50 million of the revolving fund has already been appropriated. The Small Business Administration, under whose jurisdiction the new banks will operate, will start processing applications for these investment companies about Nov. 1. It is hoped that the first loans will be processed sometime shortly after the first of the year.

Under the provisions of the act, the S.B.A. will make long-term loans to "Small Business Investment Companies." These loans, with no specific time limit, will be limited to \$150,000 a company in the form of purchase of subordinated debentures.

The investment companies may be formed by a minimum of ten persons, and each company must have at least \$300,000 of paid-in-capital and surplus before starting business. Under the measure, the S.B.A. is authorized to match privately invested funds.

These loans will be basically for 20-year terms. But the legis-

lation does provide for 10-year extensions whenever "orderly liquidation" of an outstanding loan requires it.

The legislation leaves many important details to be worked out by S.B.A. officials. It makes no effort to specify interest rates or suggest rate policies. But official sources have made it clear that the S.B.A. will fix rate policies and will exercise approval right on rates and other technical details of all loans that ultimately flow from the program.

Provisions of the law however, carefully prohibit direct contact between the federal government and the ultimate credit consumers. This was done deliberately to forestall fears that the government might ultimately wind up either owning or holding substantial shares of private concerns.

For the ultimate borrower or businessman looking for long-term credit eligibility standards governing his size will be identical to those covering the S.B.A.'s regular direct loan program. They are:

Manufacturing firms with fewer than 250 employees are small, and more than 1,000 large. Manufacturers with 250 to 1,000 employees may be classified either way, depending upon the industry.

Wholesalers with \$5 million or less of gross receipts are classified "small"—and in service and retail industries, small businesses are those with \$1 million or less in gross receipts of sales.

## V—Other Fund Sources

Another method of raising needed capital has recently come to the attention of many manufacturing firms. It stems from the realization during the recent low inventory situation, that many firms could get along without heavy stocks.

Especially in the case of steel,



many firms are going to rely more heavily in the days to come on warehousing and wholesaling firms for their supplies of major raw materials. The inventory costs thus saved are expected to provide some much needed capital.

#### If Supplies Tighten

If supplies of basic raw materials tighten up however, this situation can quickly change. For in that event, most firms will again feel that they must keep large stockpiles to insure production needs.

But today, with most basic materials in very adequate supply, many manufacturers have found that they can successfully cut their stock requirements by from 15 to 40%. A continuing running analysis of your "optimum inventory" needs may enable your firm to free a significant amount of capital.

You might also want to consider still another method of obtaining capital equipment—one which requires practically no immediate financing. That's leasing (see p. 32), a system which has been gaining more and more acceptance.

Economically speaking, leasing has some great advantages for the small firm or company that is short on near-term funds. For after a certain deposit, you pay for the equipment as you use it. And often you can obtain an option to buy.

Many firms which need a certain piece of equipment for only a short time find leasing very advantageous. Production often can be so scheduled as to get the most possible use out of leased equip-

ment while it is in your possession.

Finally, you might consider obtaining the capital for your modernization plan through a long-term financing plan from an industrial financing company.

These plans can often be tailored to fit a firm's specific needs. They provide you with the needed equipment with a minimum initial cash layout, without directly disturbing your regular banking credit.

Although credit transactions of this type are usually developed between the industrial finance company and the seller of the equipment, programs can be

arranged directly with the purchaser.

Interest rates and repayment periods are usually worked out with both the buyer and the seller of the equipment. They usually extend for periods of up to five years, and cover from 75 to 90% of the purchase cost.

With all these various methods for obtaining capital for new equipment at your fingertips, you're in a top-notch position to take the lead in pushing your company's modernization program. Each of the methods has its own advantages and disadvantages. And each should be very carefully weighed before

any final decision is ever made.

In choosing between the various financing alternatives, don't forget that these considerations should include sales outlook, profit, position, and capacity.

Modernization is a job that depends on team work. It should be worked out carefully among your top management, engineers, and financial analysts. Big programs may also involve the board of directors. It is well to remember that personal likes and dislikes will enter into these discussions.

But it is you, the purchasing executive, who must take the lead in organizing a study to find

out how much your company can benefit from the introduction of new materials and equipment. It might even be necessary to add new plants or departments.

It is well to remember that you are the company's expert on new products and new equipment. Furthermore, in most companies it is your job to get any information which any supervisor wants about them. This means that you are in a key spot.

In today's rapidly changing business world, your company must modernize. As one purchasing executive told PURCHASING WEEK, "when you're through changing, you're through."

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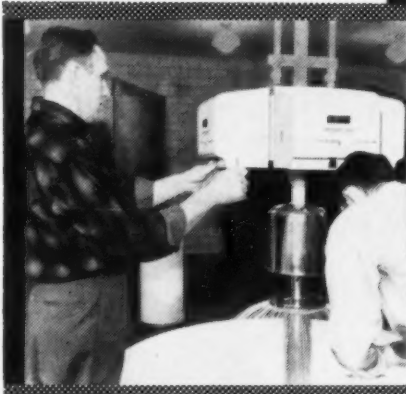
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# Leasing Can Speed Modernization

## Leasing your equipment can . . .

- Tie up less of company's available cash. Make modern equipment available immediately, defer payment over several years.
- Defer taxes by classifying rent as operating expense.
- Let you try equipment before deciding if you want to buy it.
- Prevent investing in equipment for short production runs.
- Increase profits on cost-plus government contracts.

## But, leasing will also . . .

- Cost 6-15% more than a bank loan.
- Not avoid taxes, only defer them.
- Not build up equity in equipment.
- Give a questionable appearance on balance sheet.
- Restrict freedom to alter or improve equipment.

If large companies, such as the Pennsylvania Railroad and American Airlines, procure modern equipment (locomotives and jet engines) by leasing, why shouldn't the small purchasing agent?

### Caution Is the Word

In some cases he should, for it may be the only way in which his company can acquire up-to-date equipment to meet competition. But caution is the word.

Several years ago leasing offered definite tax advantages. But the picture has changed rapidly. Tax advantages, except for government contracts, have almost vanished with new Internal Revenue allowances for accelerated depreciation. However, leasing still has other advantages the P.A. should consider.

### Rent Can Be Deducted

The biggest reason for leasing instead of buying equipment is the chance to deduct rent as operating expense. Many think this saves taxes. It doesn't, it only postpones them. High lease payments increase expenses thereby reducing profits and taxes. But later on, after the basic lease period, lower rent lets both profits and taxes increase. If taxes stay the same or increase, there is no long term tax saving—only postponement.

But for the manufacturer working on government contracts, leasing may be profitable. He can charge off lease payments as operating expenses during the contract. By this procedure he can also keep accounting on government contracts separate from regular commercial activities. Because government accounting procedures differ from normal Internal Revenue requirements, taxes are paid on net profits allowed after renegotiation. Thus P.A.'s buying under government contracts should consider leasing as a way of saving taxes.

### Leasing Aided by Tax Laws

As the National Association of Accountants explains it, "The attractiveness of leasing capital equipment comes primarily from peculiarities in Federal Tax laws." But this is true only if the agreement is recognized as a true lease, not a disguised conditional or time payment contract. Some companies have found that what they considered as rent was not allowed as operating expenses by B.I.R. because of questionable purchase options. In this case,

there was no tax "saving."

Today few leasing companies give purchase options unless the lessee insists. The most acceptable lease of this type includes an option for payment of the equipment's fair market value at the time the option is exercised. But even then there is no clear ruling from Internal Revenue—"Each case must be decided in the light of its particular facts."

One option which should be avoided completely is the nominal value purchase option (\$1.00). This is considered proof that you are accumulating equity in equipment without paying taxes. Internal Revenue is also not apt to allow a lease with first-year rental payments which exceed the depreciation value.

### Don't Be Taken by Advertising

The P.A. should not be taken in by advertising that claims leasing frees capital, any more than other forms of financing. Leasing will require less initial capital than other forms of financing, permitting acquisition of up-to-date equipment needed for increasing production. But it still requires money, not only for the first but for advance payments, and deposits against misuse.

### Lease Payments Studied

Small lease payments are less than a downpayment on an outright purchase. But a bank loan could serve instead. And there are other methods of financing procurement of equipment as outlined in the preceding article.

If "Free-capital" is the most attractive thing about leasing, then the P.A. will check his company's situation with the controller or treasurer. He knows which is the best way to free capital and can help define the difference between **cash** and **cost**.

If leasing appears attractive because it will improve the financial picture, your company probably fits one of the following descriptions:

- Capital is more urgently needed for other uses than equipment.
- Taxes can be paid better in the future than at present.
- A more favorable appearing balance sheet is needed to satisfy stockholders.
- Using tomorrow's dollars for today's equipment hedges against inflation.
- Credit may not be available tomorrow; use leasing today.
- Cost accounting needs simplification; mostly rentals can

be charged against one specific account.

• Although credit is short now, long term profit picture looks good; company can assume long term obligation of lease.

But there are reasons other than financial that make leasing new equipment attractive. It can improve operating efficiency of the plant. If this is true, it stems from one of the following reasons:

- Using equipment now will put you ahead of competitor while he saves money to buy same equipment.
- You want to try new equipment without committing yourself to the purchase of some that may prove unsatisfactory.
- You aren't able to train maintenance men to handle complex new equipment; let the lessor be responsible for it.
- The plant wants to handle peak loads (seasonal or short term) without going into debt for special machinery.

### Production Time Important

For production jobs which last up to two years, a small firm may find leasing preferable. The new tool may assure maximum production, a minimum of supervision, and efficient use of manpower. When production is complete, the leased equipment can be returned; and the plant can return to normal operations.

Short production runs do not justify buying equipment. By leasing the small manufacturer can obtain a desirable contract. If the P.A. knows this is the case in his company, he can then recommend leasing as the preferred method for procurement.

### Type of Equipment

Another time purchasing should recommend leasing is when the equipment is of a highly technical nature, subject to constant improvement. Familiar examples are business machines, electronic computers, and special testing equipment.

Many companies hesitate to take advantage of recently designed machines for fear they will be stuck with an obsolete model in several years. This machine can be rented for a period of 3-5 years. Then if still needed, later models can be obtained without the problem of disposing of obsolete equipment.

And, if you are not sure exactly which kind of equipment will work out best in your plant, leasing again is helpful. Trial will give the plant time to decide if

this machinery should be the kind for permanent installation. If it proves not to be, disposition is automatic; and something better can be tried.

Manufacturers encourage leasing for the same reason. They not only want to spur sales but also speed development of better models. Leasing can get models into the plant sooner. Waiting for buyers willing to invest money in brand new models does not encourage rapid design changes. But leasing will.

### Complex Needs Stressed

If the equipment needed for modernization is highly complex, the P.A. should suggest leasing to prevent maintenance problems. The manufacturer can usually supply skilled maintenance as part of the leasing arrangements. Trying to train your own personnel to handle unfamiliar machines may far outweigh the extra cost in getting maintenance as part of the lease. Besides, if the equipment does not work out, maintenance in the plant is not saddled with unemployed specialists.

### Leasing Not One Sided

However, leasing is not all one-sided. It has pitfalls.

As in any good procurement arrangement, both parties should profit. In a lessee-lessor arrangement, the one who retains equipment ownership expects to realize a money profit. He expects to make a profit or capital gain when the leased assets are eventually sold.

In the normal lease of equipment, the lessor collects an amount during the primary lease which varies from his cost to the selling price. This is why he is able to offer you a lower lease rate after the initial period.

In comparing money involved in leasing versus outright purchase, it's true that the monthly lease payments are less than the downpayment. But leases contain other charges that the P.A. should expect. Some lessors require a 3-4 months payment in advance, some a 10% deposit of sales price returnable only at the end of the lease. These costs are not tax deductible. And if for some reason the lessee is forced to cancel, termination charges may be substantial.

In some cases, the lessor may assume the costs of taxes, installation, insurance, assessments, maintenance, and repairs. If he does, the rental charge will re-

flect it. But in many cases, the lessee assumes these additional charges above the base rental and must be prepared to pay them. When discussing rental rates, these charges should be understood by the P.A. (If the lessee assumes these expenses, the B.I.R. may construe it as evidence of ownership).

### Another Fact Given

Another fact to consider in arranging leases is that you will be using someone else's equipment; you don't own it. This means that at the end he may take it back even though you may need it. In some cases, similar equipment may not be available. A purchase option or renewal clause offers protection here.

Some leasing arrangements impose limits on use of tools, require extra supervision, or limit the purchase of supplies for it. The purchasing agent should take all of these factors into consideration.

Leases may be negotiated with one of several possible lessors. It may be the equipment manufacturer, professional leasing company like U.S. Leasing Corp. or Boothe Leasing Corp., or financial companies like C.I.T. or Financial General Corp.

### Factors to Consider

Some factors governing the form of a lease include the depreciable life of the equipment, its chance of obsolescence, and the limitations of the lessor's refinancing. Some equipment may be leased on a time usage or a unit production basis, while others may be a fixed monthly charge.

Though every lease may be tailor made, each one probably has the following provisions: a base period of 3-10 years, renewable at a lower rate on a year-to-year basis, a chance to renegotiate for more modern models, and a prescribed payment schedule.

Before considering equipment leasing, remember two things:

1. The longer the life of the equipment, the less the advantages of leasing tend to be.
2. Leasing should be based on actual dollars saved over a long period, not theoretical advantages.



# Reds Modernizing Basic Industries

## The Background

• The Soviet Union, having shed its cocoon of economic isolation on its rise to military and political importance, has emerged upon the world scene as a force with which to be reckoned in international trade. With trade delegations traveling to all parts of the globe, no matter what the area of influence, baiting deals, Russia is wedging into markets long dominated by the United States and other western industries.

• Just how potent is the Soviet economic machine which harried Free World commodity markets this past year with spectacular moves involving tin and aluminum and courted customers for capital goods equipment? A sampling of purchasing agents at a recent meeting placed Russian economic moves among the half dozen or so major problems with which they were concerned.

For first hand details of the industrial strength on which the Russian economy feeds, McGraw-Hill sent one of its chief editors to the Soviet Union, Elmer J. Tangerman. He made an on-the-spot inspection of Russian machines and equipment in many areas of that vast country.

## The Editor

Elmer J. Tangerman, editor of Product Engineering, is a McGraw-Hill veteran. Tangerman was graduated from Purdue University with a B.S. degree in mechanical engineering in 1929. He joined American Machinist as an editorial assistant. A year later, Tangerman was promoted to assistant editor at American Machinist and Product Engineering. Tangerman was assistant edi-



ELMER J. TANGERMAN

tor at Power from 1932 to 1934. He was associate editor from 1934 to 1936. He was promoted to managing editor in 1937. Tangerman served as American Machinist's assistant manager and Power's consulting editor from 1938 to 1942.

His other positions included Power business manager, Wings' technical editor, and McGraw-Hill Digest editor from 1942 to 1945; Mill Supplies, consulting technical editor, 1933 to 1945; American Machinist's managing editor, 1945 to 1950; Nucleonics, general manager, 1947 to 1949; American Machinist's executive editor from 1950 to 1956; Product Engineering's, executive editor January to June 1957.

Tangerman was promoted to his present post July 1957.

By Elmer J. Tangerman  
Editor, PRODUCT ENGINEERING

Recent Russian offers of machine tools, steel-mill equipment, and other capital goods in world markets point up potential competition from Iron Curtain countries. Production there has been concentrated on equipment for basic industries — agriculture, mining, steel, and heavy metalworking. Because the system is based on quantity production of

relatively standard designs, some machines can be exported to provide credit for purchases of machinery not yet on Soviet production schedules.

Number of types and sizes of machine tools, for example, has risen from 145 in 1948 (a decline from the 360 before World War II destruction of plants) to 437 in 1951, 788 in 1955, and 900 last year. This figure is expected to reach 1,200 in 1960. Meanwhile, number of units made

has increased from 1,490 in 1928 to 130,000 in 1957. Projected for 1960 are 150,000 units. U.S.S.R. quantity totals passed our production in 1956 although they do not yet match our World War II or Korean peaks. Emphasis is on drills, planers, shapers, and lathes—the basic machines—although some 100 transfer lines were operating two years ago. Our machines, at least to date, are much more complex and include many feed-

ing and ejecting devices, automatic controls and the like, as well as many high-production units.

Actually, much of Russian industry was destroyed in the German invasion; so much of U.S.S.R. capacity is relatively new. Thus overall plant averages as new or newer than ours, particularly when the numbers of totally new plants are considered. However, increase in

(Continued on page 34)

You find Gates Hose where anything flows  
Mackinac Bridge, world's longest suspension bridge, connects upper and lower peninsulas of Michigan. Because reliability of equipment is an important factor in the grouting operations, Gates Water and Air Hoses were used.

PHOTOS COURTESY MACKINAC BRIDGE AUTHORITY

**Gates Air Hose**  
helps build bridge  
"that couldn't be built"

TPA 304

Industry everywhere depends upon Gates Industrial Hose to provide air, water, steam, oil and suction for every type of application, including some of the toughest jobs in the world.

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The Mark of Specialized Research



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# Gates Industrial Hose

Made in a Full Range of Types and Sizes



(Continued from page 33)

capacity has occurred at so great a rate that replacement time is claimed to be 15 to 18 years, and actually the rate is less than a third of that—say 2 to 3% a year currently. To help overcome this problem, some 60,000 machines have been modernized in the past ten years.

#### Built to Required Levels

Presumably, this situation will be corrected as capacity is built up to required levels, but this is still some time away because demand for goods is increasing so rapidly. Also, Russian machines are generally heavier, slower, and less automatic than ours, with bronze or babbitt bearings instead of anti-friction types. They thus wear out faster and will become obsolete faster because of increasing requirements for higher accuracy. To complicate the problem, the average Russian worker has little or no interest in maintenance and servicing; so tools wear out faster.

Russian machines are, however, comparatively cheap. The ruble is worth 30 to 50¢ when applied to the purchase of machinery as compared to about 10¢ for most other things. This makes new machinery an attractive investment to plants, even though all equipment belongs to "the people," because the managers and workers are both eligible for bonuses if productivity surpasses predetermined levels. Hence the pressure for new equipment will be constant, and interest in replacement will be great.

The Soviet industrial plant is, in general, nowhere near all modern; but the amount of modern equipment is increasing at a tremendous rate, and capacity is rising. (Over-all industrial output in 1956 was 7.7 times that of 1928, 3.8 times that of 1940, 78% over 1950.) This has the effect of improving overall age and condition of equipment, even though the old and obsolete types are still in use.



**RUSSIANS CAN MAKE BIG MACHINES** as indicated by this planer. The picture was snapped at the Novosibersk planer factory located in Siberia. The size of the planer is approximately 49 ft. long and 16.4 ft. wide. The Russians are manufacturing also more complicated machines.

The outlook is for relatively modern, efficient U.S.S.R. industrial capacity within a few years, fully able to compete in world markets. This will be backed by a metals industry including some equipment larger and more mechanized than ours as well as a higher proportion of new equipment. There will be a high rate of obsolescence because of inadequate maintenance and poor construction, but this may help rather than hinder modernization.

#### Products Not Up to Par

Dispersion of industry for military reasons and the present program of decentralization will result in some duplication of equipment and pressure to utilize installed units more fully. Decentralization of 15 republics economically into 105 areas within the last two years is already causing some areas to favor their own plants in supplying castings, rolled shapes, and the like forcing out-of-area plants to close temporarily because of inadequate supplies.

The result is pressure to make each area self-sufficient, and this has necessitated a Kremlin edict that areas concentrate on producing what they do best and depend on other specialist areas for special products. This is, however, probably only a temporary solution; the ultimate effect almost certainly will be duplication of capacity and excess production to be disposed of in its world markets.

In general, Soviet products have not up to now been up to standards. As they gain experience, however, there is no reason why Russian plants should not improve product quality. Also, because they respect no non-Soviet patents, engineers there can frequently combine the best features of products of various makers or countries to produce a product of superior performance to any. The procedure has been to copy best-available foreign designs where possible because no onus is attached to this practice in the Oriental mind. This procedure has resulted in leapfrogging of some developmental steps; so the apparent rate of Soviet advance is termed very great.

#### Lack of Engineering Manpower

When, however, the U.S.S.R. reaches our level of development, this pace will probably be slowed because of lack of sufficient engineering manpower to advance on all fronts at once. Present advances in specific fields have been made by concentrating best engineering talent on them, rather than dissipating it in many fields as we do, and by copying in other fields as necessary.

#### Red China Threat

The greatest potential threat to Russian marketing of machinery is, however, Red China. China is industrializing as rapidly as it can and is already offering diesel engines and some machinery for export to East Asian countries. Her potential capacity is so great, her labor costs so low, that she may some day offer more competition to her erstwhile sponsor than will any Western nation.

The Soviet Union offers just as many paradoxes as Old Russia did. The newest and oldest of equipment work side by side. Quality control, inspection, instrumentation, and management concepts are almost totally lacking, but production is high despite the drawbacks.

## Foreign Nations Are Competing For Customers Here and Abroad

European Modernization Moving at Terrific Clip; New Equipment Installed Since War Paying Off

• Has one of your salesman ever reported losing a sale to a foreign competitor?

• What was the last foreign made product you purchased in preference to a more expensive but equivalent American-version of the same industrial goods?

The issue of foreign competition becomes a major factor in any discussion of plant modernization and installation of up-to-date equipment.

#### Wage Ratio Mentioned

The facts show that our European competitors probably have more in their favor than just the oft-quoted 1-to-3 wage rate ratio that marks the Dusseldorf steel worker in comparison to his Cleveland, U.S.A., counterpart. Spanning new or otherwise recently installed machine tools and equipment also very well could have figured in the reason why your firm's salesman lost that order, and why you "made a buy" price-wise on that import shipment.

Equipment modernization has proceeded at a fantastic clip in Europe since World War II. Much of the plant and equipment replacement was, of course, necessary to replace war destroyed facilities. But the fact still remains that modernization and installation of new plant and equipment on a continuing replacement basis have played a major role in the prosperity of Western Europe and other highly developed nations in the past 10-15 years.

And now the new European Common Market presents a series of challenges as well as opportunities to American business. To meet competition from the Communist bloc and overcome growth stunting competitive waste among themselves, the leading nations of Western Europe have united to set up a new international economic order to boost their competitive standing in world markets.

#### Western European Unification

This economic unification of Western Europe is the organization known as the European Economic Community. Its purpose is to set up an economic integration in which all tariffs, quotas, and other blocks to movements of goods, labor, and investment funds are eliminated. For United States companies, this could mean that Western Europe becomes even a bigger customer for American goods. On the other hand, American firms will find growing European competition for their customers in Europe and throughout the world.

Latest figures available from government sources show:

• Total production is rising faster in Europe than in the U.S., in some areas at twice the rate.

• European investment also has risen at a faster rate than in the United States and accounts for a greater percentage of the gross national product. European living standards, although considerably under the U.S. level, also are rising quickly.

To help assess the impact of foreign industrial progress through modernization, McGraw-

Hill World News bureaus reported impressive details to PURCHASING WEEK. Following are highlights of these dispatches from leading world capitals:

**Geneva**—Proof that Western Europe has been concentrating on strengthening its economic muscles for the battle for markets is the finding of U.N. experts in Geneva that 2/3 of its total consumption of steel has been for investment purposes.

#### Steady Growth Reported

They also reported a steady substantial growth of capacity is to be expected in Europe with a particularly rapid rate of expansion in Italy and Germany.

Other signs reported by the experts of Western Europe's intention to keep modernizing included a 7% increase in volume last year of Britain's total investment in plant and machinery. Advances in productivity contribute largely to a 6% rise in volume of the French gross national product. Fixed investment, which increased about 9% in volume, and exports are the two main categories of demand responsible for a 6% expansion in Italy's G.N.P. last year.

The greatest hope for future expansion in Italy is placed on engineering products, followed by textiles and ships.

All these factors indicate that competition from Europe will get increasingly tough for American industry, the experts say. The advance of U.S. industry in technological and other production factors over their European counterparts is narrowing, particularly in steel, ship building, and automobiles. The feeling here is that any complacency which American and industrial leaders may yet have could lead to a rude awakening.

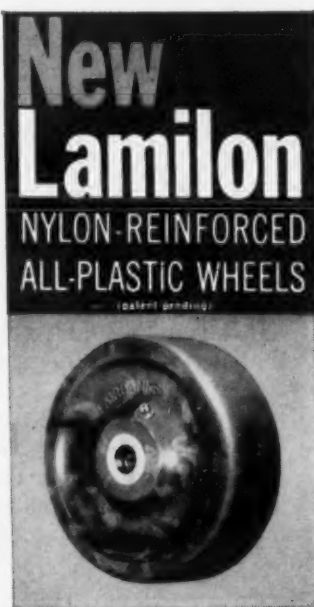
**Bonn, Germany**—West Germany is a graphic example of modernization paying off. Given the alternative of rebuilding on a titanic scale out of the rubble left by Allied bomber marksmanship or easing into a semi-pastoral state, the Germans rebuilt.

Basic material producers, processors, manufacturers, and constructors kept on short leash in early postwar years came thundering back. Bottled-up worker energy burst into steadily soaring production and spiraling productivity. In the absence of a functioning capital market, the nation's businessmen took funds largely from their own resources and profits and plowed an estimated \$70 billion into new plant and equipment between 1948 and the end of 1957.

Today West Germany has the most modern major industry in Western Europe. About 43% of its equipment is less than five years old. Sixty per cent is less than ten years old. The nation's fixed assets are valued around \$200 billion and new investment in the next five years will run between \$60 and \$75-billion.

Regaining more than its share of world markets, West Germany is pushing Great Britain for second place in the West behind the U.S. German production of

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your plant



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iron and steel, chemicals, automobiles, electronic and electrical engineering goods, ships, and heavy engineering goods is keeping pace or outdoing that of its competitors. Invariably, success has been the result of substantial capital investments, amounting to 7 to 9% of sales, sometimes as high as 20%.

**London**—Put it down as a good bet that Britain will be stepping up its rate of investment in industrial plants although it may not come tomorrow. Part of the timing depends on the reaction of business and government to growing signs of a British recession. That seems to be slowing capital investment now but may soon speed it if the government moves to hypo the economy.

As it stands today, Britain's manufacturing plant is in adequate competitive position. It's not so up-to-date as America's, but—though this will get some argument—it probably still has an edge on its major European competitor, West Germany.

Whether the country's step-up comes this year, it seems bound to come eventually. Among the many signs pointing that way: Both political parties vie for which is to be known as the "party of high investment."

**Berne**—A small country which must make a lot out of little in order to keep its economy humming, Switzerland has a modern, well-developed industry which relies mostly on self-financing to keep its equipment up to date. The country's neutrality favored such industries as chemicals, particularly the pharmaceutical branch, electric power equipment and textiles, which were able to continue their development through the war years.

Switzerland, with water power as its only natural resource, is fully aware that it must rely on productivity, and therefore on the modernizing of its equipment to compensate for lack of raw materials. A close watch is being kept on developments in nuclear power and nucleonics.

**Amsterdam**—Out of the wreckage of World War II, the Netherlands gained this: modernization of plants, replacement of capital goods, rebuilding of entire city centers. After 13 years of rebuilding cities and plants, buying machinery and capital equipment, examining closely productivity and efficiency, the Netherlands has reached a point where it can generally boast of having a well-equipped and modern production apparatus which can compare with other European countries.

The forthcoming European Common Market urges Dutch industrialists, faced with increasing competition within this market, to try wherever possible to cut costs, either by mergers or by raising productivity in modernizing, mechanizing, automizing, and specializing.

**Paris**—Modernization and expansion of the capital plant in France during the last four years have boosted industrial output to a record high. Production goals set up by the government's second modernization plan, which ended in 1957, were in most cases met or surpassed. Goods now pour out of French factories at twice the prewar rate. Productivity is up 30% over 1949.

Despite formidable strides made in the last four years, French industry today still faces an urgent need to modernize. In the works is a 1958-1961 modernization plan to beef up France's industrial plant. To hit the over-all targets of the plan, informed observers believe 20% of the national income each year must be invested in new capital plant and equipment, including housing.

**Budapest**—Hungary is adding another \$151 million to its \$798 million three-year capital investment program, according to the Hungarian News and Information Service. More than \$85 million

of the allocation will be spent on speeding up projects underway and expanding existing industries, \$27 million to new projects, and the rest to new equipment.

In Warsaw, recently announced plans of the Polish government will require a major portion of the nation's resources to develop heavy industries. The investments will be aimed at increasing the output of steel, machinery, oil products and railroad equipment.

**Milan**—Italian industry has been expanding rapidly in many areas with constant increases in export trade.

Europe's first large scale synthetic rubber and nitrogen fer-

tilizer complex went into production at Ravenna early this year. Initial production was sufficient to supply domestic needs plus make a start on export requirements with triple output scheduled in three years.

Mechanical industry exports, excluding vehicles, showed a healthy increase during the first portion of 1958 when the general index of industrial production advanced to 145 (1953 equals 100) in May, compared to 138 in April.

Recent figures released by the Italian Association of Auto Manufacturers silenced any talk of recession in that sector of Italian industry. In the first half of 1958,

vehicle output rose nearly 22% over the corresponding period of 1957.

Man-made fiber producers also are undertaking intensive streamlining programs.

In textiles, 1957 exports increased over the previous year with France, Turkey, Western Germany, Iran, Austria, Yugoslavia, Mexico, Japan, Belgium, and the U.S. her best customers in that order.



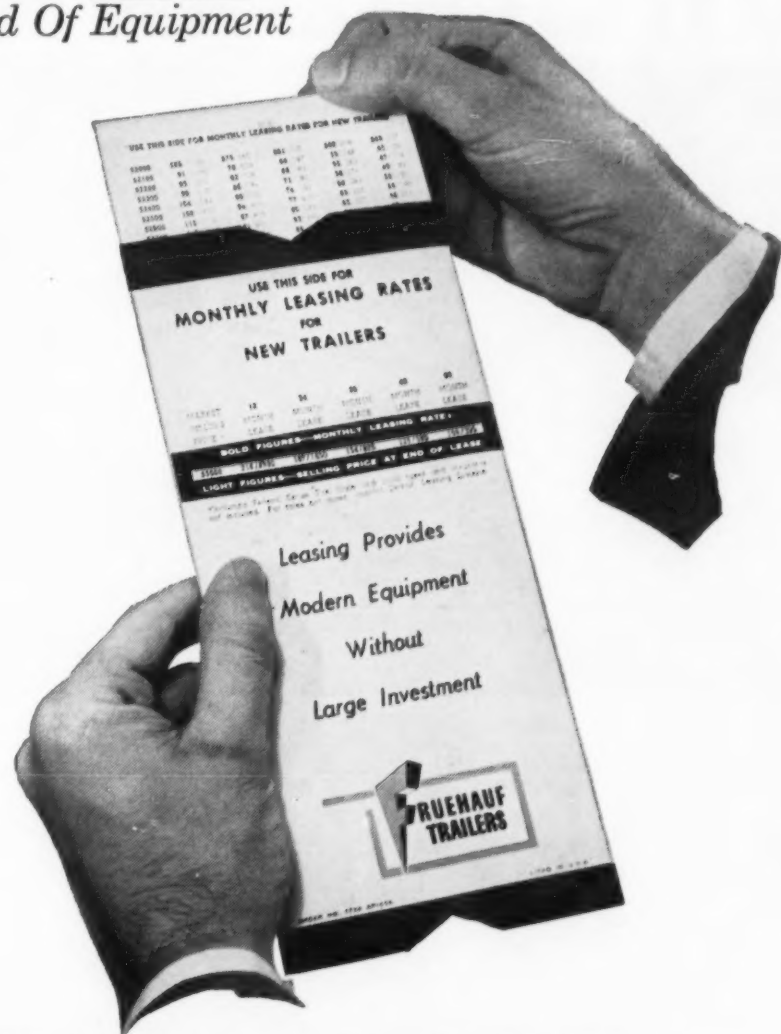
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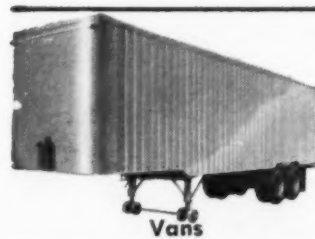
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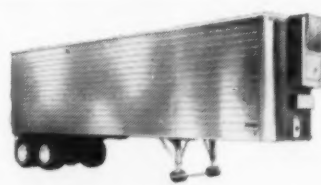
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By LEO A. HOEGH,  
DIRECTOR OFFICE OF CIVIL AND  
DEFENSE MOBILIZATION

"From the standpoint of production capacity and materials supply with potential defense uses, this nation is today better prepared than ever before to cope with a war emergency. This preparedness in the non-military defense sphere is an important component of the deterrent strength we are building and maintaining to confront the challenge of communist imperialism.

"It is my belief that the incentive of rapid amortization for defense facilities has played a most useful role in achieving today's position of mobilization preparedness as well as encouraging the rapid, large-scale build-up of our industrial might for any future conflict. It also has resulted in the locating of many critical defense plants in rural areas.

"In World War II, the major emphasis

in defense and war plant expansions fell on direct government expenditures. The government built with its own funds more than 70% of World War II war plants. Although these plants, together with private industry, performed a successful job of production and supply, the federal government faced a major problem of property management and disposal after V-J Day.

"During Korea, the emphasis changed. Whereas only \$7.3 billion in private capital investment for defense construction was certified for accelerated depreciation in World War II, more than \$38 billion in private funds came under the program during Korea and Post-Korea expansion of defense facilities; an average of 60% or \$23 billion of the cost of these expansions qualified for rapid depreciation. Congress authorized no broad program of direct federal investments during the Korean emergency.

"Basically the incentive of accelerated amortization for tax purposes extends the accepted practice in our tax structure of permitting business firms to recover capital investment through depreciation. However, by August 1957 major defense expansions had been accomplished and

ness with resultant expansion and the creation of more and more jobs to meet the continuing needs of our economy.

"There are those who argue, of course, that a more rapid write-off of capital expenditures would have a serious effect on our budgetary situation. My answer to this is while the government might collect less taxes for the immediate period, the temporary loss would be more offset by tax revenues emanating from increased business and industrial volumes resulting therefrom."



LEO A. HOEGH  
He's Optimistic

Congress amended the Internal Revenue code limiting facilities eligible to those which produce new or specialized defense items of components and to those which provide research, developmental or experimental services for the Department of Defense of the Atomic Energy Commission.

By RICHARD NIXON  
VICE PRESIDENT, U. S.

"In this day of rapid technological change we need more liberal treatment of depreciation for business taxation purposes. Only in this way can we stimulate the taking of risks by investing in new plants and equipment. We should consider the economic effects of downward adjustments in business taxes.

"There are strong reasons to believe that the stimulating effects of even a small cut in the corporate tax rate of 52% would lead to more, rather than less revenue. We must not allow the fear of a temporary budget deficit to put us in a straight jacket which will keep us from doing what we ought to do to insure economic growth. Our goal should be to fashion a tax structure which will create more jobs, more income, and more genuine security."

By HOMER CAPEHART  
U. S. SENATOR FROM INDIANA

"I would like to express my appreciation for the opportunity to set forth in your publication the reasons which have motivated my efforts over the years to bring about a realistic revision of our depreciation tax laws.

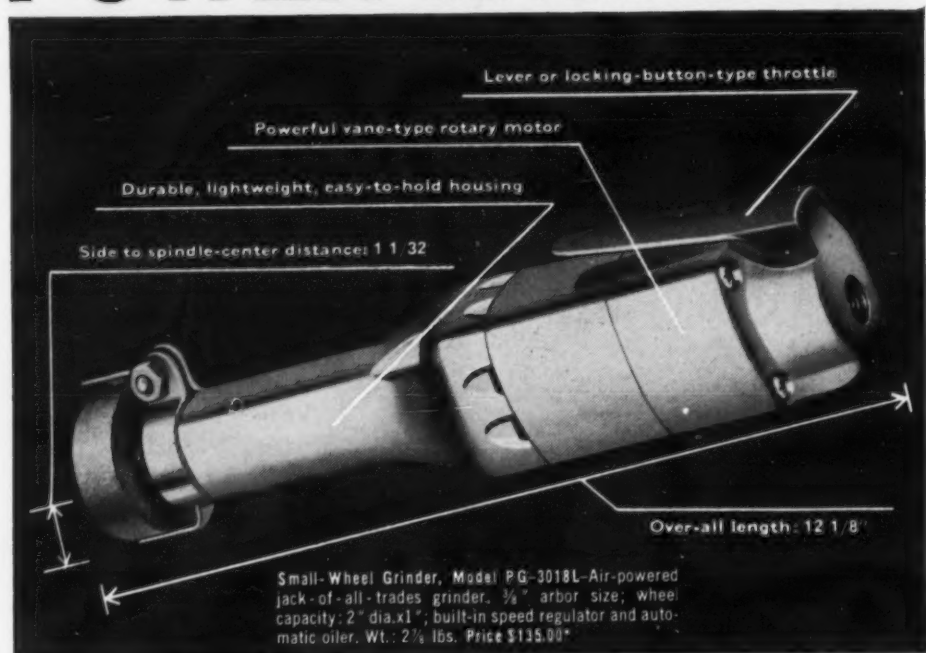
"I feel so strongly that such a revision is in the best interests of the United States, particularly of the wage earners, that it will be my purpose to continue to fight for such legislation as long as I am in the Senate.

"It will be recalled that I introduced in the second session of the 85th Congress S-3718, designated at that time primarily to alleviate the unemployment situation and to revitalize the economy. Fortunately, that situation has improved somewhat.

"Nevertheless, I believe that a revision of the tax depreciation laws towards liberalization remains vital to every segment of our economy. Our depreciation tax laws are less liberal than those of any other industrial country in the world.

"Primarily I believe we should provide more rapid amortization of our capital investment as a means of stimulating busi-

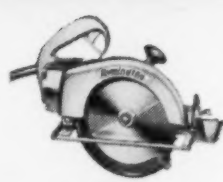
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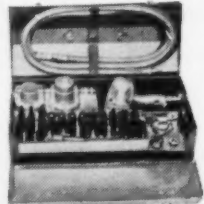


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The techniques of modernization detailed throughout this Plan '59 theme edition of **PURCHASING WEEK** (Pages 5-38) apply generally to all industry. The purchasing director, filling a pivotal role in industrial operations and management, will find himself at the hub of almost any industrial plant and equipment rejuvenation program.

And there is a case for modernization in your industry!

All other McGraw-Hill business publications—and their editors are leading authorities in their industrial fields—have researched the segments of U. S. industrial life which they serve. Here, in capsule summarizations is how they view the modernization problem on an industry-by-industry basis:

**AMERICAN MACHINIST:** Aside from the economic factors of modernization, A. M. (in its Oct. 20 issue) presents its proof that productivity of today's equipment is in most cases far greater than equipment bought 10 and 20 years ago. It also presents details on how to go about selecting equipment to be replaced, how to handle a continuing equipment replacement program, financing replacement, and where to go for help and information for effective decision-making on modernization.

**CHEMICAL PUBLICATIONS:** Rounding up the best opinion available, Chemical Week (Oct. 11 issue) builds a case for modernization now, stressing these reasons—labor is available; so is equipment. Deliveries can be scheduled nicely; engineering contractors are eager for business. Net result—building costs 5-20% cheaper, and plants can be put up 3-6 months quicker than during "normal" times.

**Chemical Engineering** (Nov. 3 issue) features a panel discussion by 13 experts representing chemical process industries, equipment firms, and consultants who discuss the need for modernization. How to make a process modernization survey also is explained in detail by a leading consulting organization.

**COAL AGE:** Case histories (October issue), in addition to showing the wide opportunities that exist, demonstrate that the

modernization payoff is well worth the price in all mining activities. These include such items as a cut of 25% in mining cost in less than three years through the industrial engineering approach to cost control and a cut of 33% in haulage cost as a result of replacing old small cars with 262-cu. ft. units.

**CONTROL ENGINEERING:** A special report (December issue) pinpoints the control engineer's problem of finding opportunities

(that are justified economically) to use new and modern tools of control. The 24-page report explains in detail how specific diverse companies search out applications of instrumentation to cut costs, increase capacity, boost productivity.

**ELECTRICAL WORLD:** Fuel buying is marked as an area of modernization by Electrical World in the first (Oct. 6) of its five weekly special reports. The article reviews present coal buy-

ing practices and discusses possible changes that will assure price-supply stability in the face of rising fuel costs.

**ELECTRONICS:** Reporting a series of newsworthy developments in modernization of electronics manufacturing facilities, Electronics (Oct. 24 issue) features a special report on machinery for electronics production.

**ENGINEERING & MINING JOURNAL:** In an introductory (Continued on page 38)

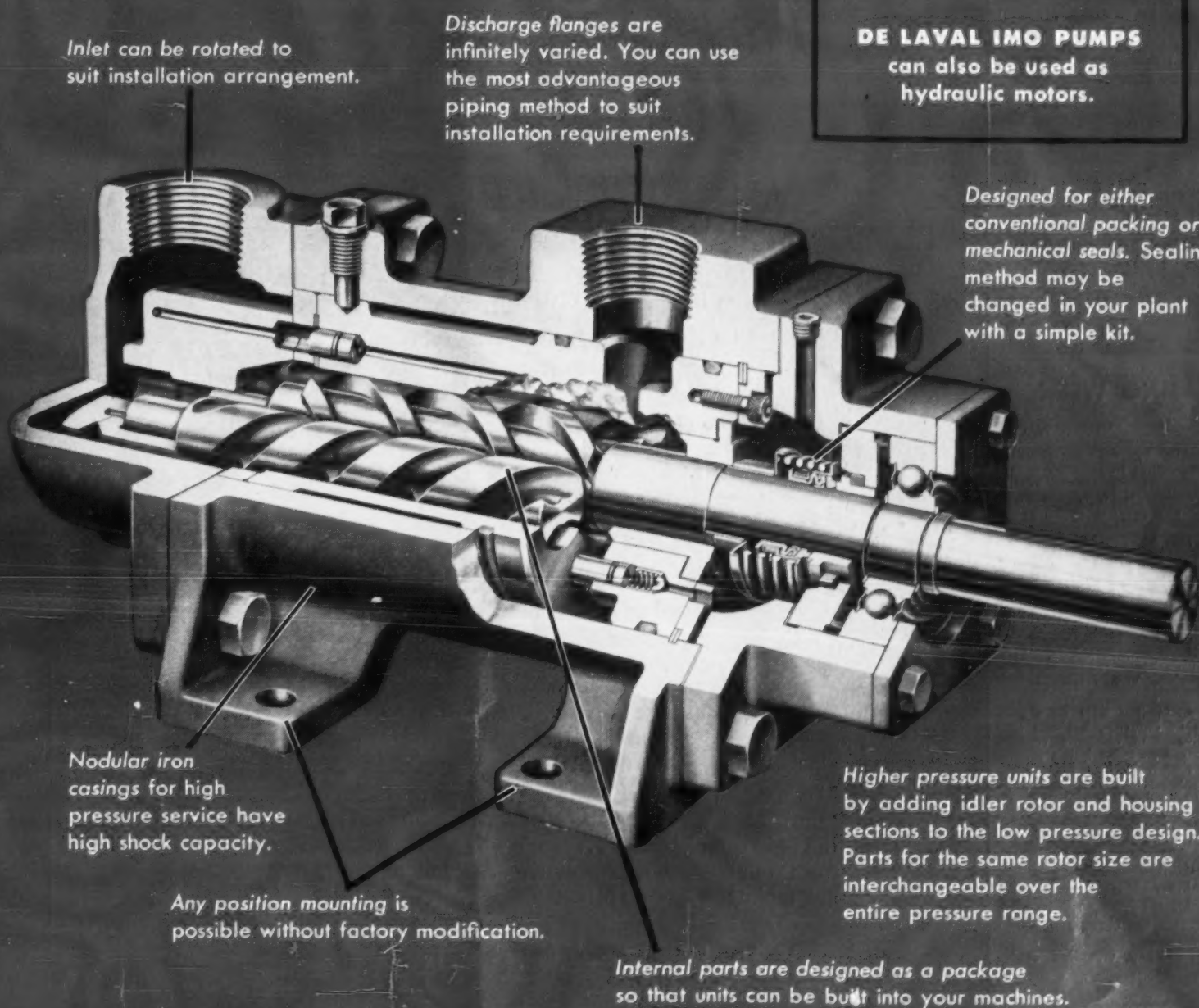
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(Continued from page 37)

article "How to Modernize," E&MJ (November issue) lists 28 elements of "scientific management" or "industrial engineering" which will serve as yardstick indicators to enable mine management to determine how modern or how obsolete are its methods, plant, and equipment.

**FACTORY MANAGEMENT & MAINTENANCE:** "Hit or miss" characterizes most present day plant modernization plans, Factory's editors concluded after scores of field interviews and plant visits. The editors contend that what must be substituted is "Managed Modernization", and 50 pages of the November issue are devoted to this concept.

**FLEET OWNER:** Operators of motor fleets are given a comprehensive review of reasons (November issue) why it pays to

make sure vehicles are up to date and to take advantage of changing conditions under which vehicles are operated (plus present cost run-up). Pressures urging fleet modernization include increased stop-and-go driving, higher weight limits, and other changing factors presenting additional advantages for newer vehicles.

**FOOD ENGINEERING:** It's modernize—or else—in the food industry. Too much equipment in the industry is too old or obsolete to perform with a high degree of productivity, editors report (October issue).

**PETROLEUM:** Petroleum Week will prepare a segment-by-

segment review (Nov. 7 issue) of the oil industry's modernization planning and thinking in terms of production, transportation, refining, and marketing. Other portions of the comprehensive industry survey report will cover what management consultants and other experts believe should be done, financing, material on depreciation, fast tax writeoffs, and age of equipment replacement studies; case studies of recent successful modernization programs; and a section on specific equipment that will be most popular.

National Petroleum News (October issue) figures modernization opportunities in oil mark-

eting would add up to an investment of well over \$200 million with biggest potential in stations (roughly estimated at \$115 million), storage plants (\$85 million), and motor fleets (\$21 million).

**POWER:** Two exclusive surveys of what pace-setting industrial plants and central stations are accomplishing in the drive to reach higher performance levels in power services are featured by Power (October issue).

**PRODUCT ENGINEERING:** In two issues (Oct. 6 and 13), Product Engineering advises the design engineer on "why" modernize and "how" to modernize. Both sections cover such basic elements as research and devel-

opment, the engineering laboratory, drafting equipment, the engineering library, and the model shop.

**TEXTILE WORLD:** Editors probed the textile industry department by department to see what can be done and is being done by mills to be ready for growth and greater profits (October issue). Their conclusion is the textile industry is not prepared for the new cycle getting under way.

PLAN 59

THE END

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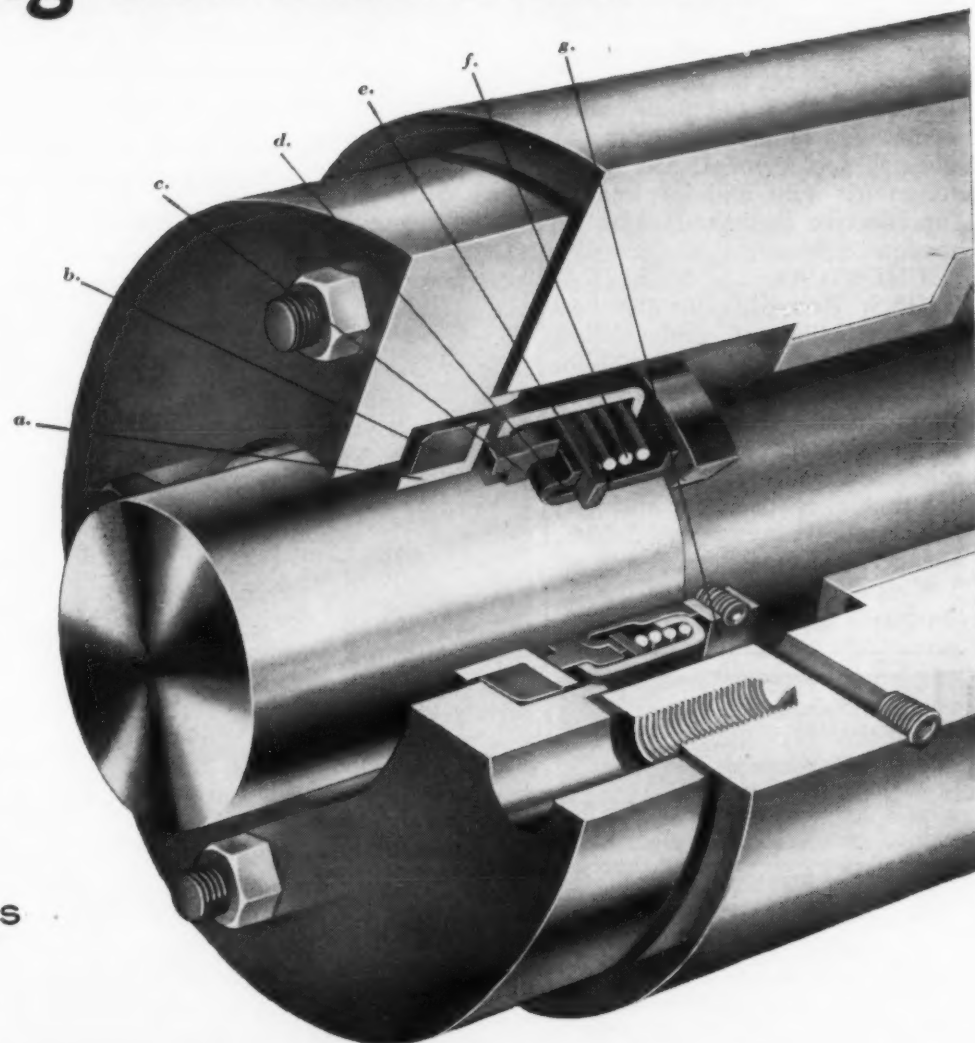
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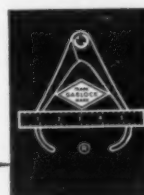
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## Price Changes for P.A.'s

**Chromium Carbide**—Electro Metallurgical Co. has announced prices for new type "M" chromium carbide powder are now \$2.60 a lb. for tonnage quantities and \$3 a lb. F.O.B. Niagara Falls, in smaller amounts. Purity ranges from 98.8-99.9% and lot variations are very slight. Type "M" chromium carbide is available in 325 and 10 mesh by down.

**Fir Lumber**—Green fir lumber prices fell another \$2 a thous. bd. ft. on some key items at northwestern mills. Car-load lots are now quoted at \$65 a thous. bd. ft. This is a decline of \$6 for the past month but is still \$10 above the year-ago quotation.

**Lead Oxide**—Increased lead prices have again caused lead oxide tags to rise. A boost of  $\frac{1}{4}$ ¢ a lb. puts red lead at 13 $\frac{3}{4}$ ¢ a lb. for the 95% material; 13.95¢ a lb. for the 97% material, and 14.10¢ a lb. for the 98% material. Less than carlot tags are 1¢ a lb. more. Litharge is now quoted at 13 $\frac{1}{4}$ ¢ a lb. and orange mineral at 16.10¢ a lb.

**Gasoline**—Bulk cargo gasoline tags on the Gulf Coast have been cut by  $\frac{3}{8}$ ¢ and  $\frac{1}{2}$ ¢ a gal. Many major firms made the reduction and 90 octane gasoline is now quoted at from 10 $\frac{1}{4}$ ¢ to 12¢ a gal. Premium 97 octane gasoline and top premium grades are also down  $\frac{1}{4}$ ¢ a gal. High costs and weak demand are reported as reason for the reduction. Chicago bulk gasoline tags have also declined  $\frac{1}{2}$ ¢ a gal. 91 octane is now quoted at around 12¢ a gal. Dealer tankwagon postings at 15 Conn. locations have also dropped by 2¢ a gal.

**Silver**—Silver tags were boosted  $\frac{1}{2}$ ¢ a lb. last week in the wake of increased buying in preparation for the Christmas season.

**Lead**—Boost of  $\frac{1}{2}$ ¢ a lb. to 11 $\frac{1}{2}$ ¢ was made in lead tags last week. Rising demand and the new lead quota are reported responsible for the boost.

**Petroleum**—Major western producers cut tags of heavy fuel oil by 35¢ a bbl. and light domestic fuel oil by 25¢ a bbl.

California Standard Oil Co. and Union Oil Co. has reduced up to 50¢ a bbl., the price paid for heavy crude oil.

No. 4 fuel oil has been reduced 8¢ a bbl. at Philadelphia. It leaves tags, without a voluntary allowance, at \$3.43 a bbl. in tankcar quantities.

Esso Standard Oil Co. has dropped its voluntary allowance completely along the eastern seaboard on No. 6 oil except in New York and Philadelphia, where the allowance was cut from 16¢ to 8¢ a bbl. The net effect of the change is a 16¢ a bbl. increase in price except in New York and Philadelphia where the boost is 8¢ a bbl. New York net price is now \$2.37 a bbl.

**Waste Paper**—Midwest waste paper tags rose \$2 to \$5 a ton again last week. Old newspapers are now quoted at \$20 a ton and the corrugated waste at \$27 a ton.

**Freight Rates**—Freight Forwarders have won the right to raise rates east of the Rockies by 3%. Shippers have 30 days in which to file protest.

It reflects increased loading and unloading charges allowed the railroads.

**Copper**—Custom smelters last week boosted their tags by  $\frac{1}{2}$ ¢ a lb. It puts their copper price at 27¢ a lb.

**Zinc**—Tags of zinc went up for the first time in 9 months. The new quote of 10 $\frac{1}{2}$ ¢ a lb. is  $\frac{1}{2}$ ¢ a lb. above the week-ago quote.

## Visiting Salesmen Study G.E. Buying

(Continued from page 1)

G.E., in turn, would work with them. Later Lawrence D. Miles, G.E. value analysis manager, and his assistant, Jack Foulkes, explained with some practical demonstrations how G.E. uses value analysis and how value analysis can help suppliers get more business with the company.

The sales "delegates" split into groups to visit display areas showing breakdown assemblies of equipment and products.

Kellam, a former N.A.P.A. president (1955-56), pointed out one way in which vendors could aid his department. "Carrying inventories for use in anticipation of orders is very helpful service-wise," he said. While admitting this system could be risky, he pointed out "there is a way to do this, with blanket orders."

He also called on vendors "to make suggestions that can simplify a part and reduce its cost." The idea that vendors merely quote and never suggest material design and method changes to engineers and buyers is "getting to be as old fashioned as a model T Ford," the Plainville purchasing official declared.

Vendor representatives questioned by PURCHASING WEEK at the seminar generally were enthusiastic about the meetings.

T. A. Baldwin, Bridgeport Brass Co., saw the seminar as a time saver in learning more about G.E. He was one of those who expressed the desire to see other companies try the same thing.

L. M. Jones, Revere Brass & Copper Co. sales manager, stated: "This meeting helps establish better communications between buyer and seller. We sellers get to know better some of the problems buyers have been trying to get across to us for a long time."

G.E. purchasing will benefit in the opinion of J. M. Price, Synthane Corp.'s district sales manager. He said the company supply base will be broadened because the meeting gives prospective vendors a great deal of knowledge of the company's requirements in a short time.

## Cutting Tool Quantity Price Discounts Dropped

(Continued from page 1)

Sept. 15, p. 1). Although not a price increase as such, eliminating quantity discounts raises price levels about 20%, the amount prices were reduced six months ago.

One large cutting tool firm explained that prices are now at approximately the same level as in September 1957. But in some cases prices have still not gone that high.

Only exception to the readjusted prices is for broken packages. But on the whole, the move has stabilized prices throughout the entire cutting tool industry.

## Plant to Be Built

**Pittsburgh**—Pittsburgh Plate Glass Co. plans construction of a multi-million dollar tempered glass fabricating plant at Crestline, Ohio. The company's window glass plant at Mt. Vernon, Ohio will supply the new plant's glass requirements.

This Week's

## Purchasing Perspective

OCT. 6-12

(Continued from page 1)

assessing inventory levels. A considerable number of purchasing executives contend the 1957-58 recession period taught them how to live permanently with considerably smaller on-hand supplies.

Events demonstrate from day-to-day how closely today's industrial purchasing agent is tied to international developments as well as national problems.

The Administration's efforts to placate lead and zinc producing nations objecting to the new U. S. import quotas on those metals is one example. A significant point is that we now find the U. S. in the reversed position of pressing other nations for international production and export controls.

Another instance is British Commonwealth Trade and Economic Conference decisions at Montreal during recent weeks. Suggestions made there could have long term influence over prices of basic commodities such as tin, lead, zinc and other items.

A combination of strikes at such widely separated points as Northern Rhodesia and Canada, combined with a miners walkout at a New Mexico operation, last week threatened eventual price changes in copper and nickel—despite big backlogs held by producers.

No longer is it possible for present day buyers to ignore the overseas news ticker.

**Purchasing Briefs:** Rumors of an impending increase in sulphur prices are discounted by a Texas Gulf Sulphur Co. spokesman. Texas Gulf Chairman Fred Nelson said the answer is simple—"we're all fighting for customers". . . . Governmental purchasing agents, meeting in Boston this week, reserved some harsh words for the big three automakers. The governmental P.A.'s are nettled by the companies' new policy of insisting state and municipal agencies buy from dealers rather than direct from the factory. The difference is an average \$450/car. . . .

## New Industrial Lubricants Protect Tools and Products



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## Inventories Up and So's Business, P.A.'s Tell P.W. in Quarterly Survey

(Continued from page 1)  
lows or were rebuilding to or above pre-slump levels.

Only 9% said they still were in the inventory reduction stage.

Looking at inventory levels and forward planning from another angle, 60% of the purchasing executives polled said their current stocks of production material still are under September 1957. But the remaining 40% declared they already had rebuilt production material supplies to or beyond the year-ago date.

As further indication of the trend, 42% indicated they expect their anticipated inventory levels as of next Jan. 1 to exceed supplies on hand as of last month (September).

### Extra Inventory Planning

The replies connoted extra special inventory planning. It was made clear that good supply lines, adequate production capacity at supplier plants, and a recession-built wariness to resist inventory excesses are combining to keep present industrial buying plans geared closely to current hand-to-mouth production needs — threats of price increases notwithstanding.

In fact, 18% of the purchasing executives polled last week by PURCHASING WEEK declared they never again expect to regain or surpass inventory levels previously attained—the apparent reason being better production-sales planning, revised shipping procedures, and other recession-learned musts.

### 600 P.A.'s Queried

On the other hand, many of the more than 600 P.A.'s queried saw inventory levels rising in keeping with substantial increases in business activity this fall and early in 1959. This became evident in replies to the question: If inventory reduction characterized your inventory policy during the past year, when do you expect to regain or surpass inventory levels attained previously?

Roughly 40% selected dates ranging from the present to the first quarter of 1959. Another 15% are aiming for mid-1959. Others predicted late 1959 or sometime in the '60's.

Here is how P.A.'s throughout the country regard the inventory situation:

**Machinery Manufacturer, Dallas**—"The recent upturn has caused a slight increase in our inventory. We are above three months ago, about the same as a year ago, and our Jan. 1 level will be about the same as now.

**Glass Products, Atlanta**—"Our inventory is up now from the June level as well as from September of last year. We expect it to climb slowly, regaining its previous level by mid-1959.

**Air-Conditioning, Los Angeles**—"Our present inventory level is about 15% higher than it was in June. By January, it will be at the same level as now, about 15% over previous.

**Foundry Products, Seattle**—"We are not so minimum-inventory conscious now as earlier in the year. Inventory is down, maybe as much as 40%, from a year ago but is building up again and is about 10% higher than at its low point earlier this year.

**Textiles, Atlanta**—"Rather than increasing inventory, we are scheduling shipments on a faster basis. Nevertheless, our inventory now is about the same as in June and slightly higher than last September.

**Machinery, Dallas**—"Although we're down from June and a year ago, we expect to regain previous inventory levels by next Feb. 1.

**Machinery, Cleveland**—"We are up about 15% from June but are still below September 1957 levels. But we anticipate "normal" inventory around the first of the year. However we don't expect to build high levels again. So many other efficiencies, such as better material flow, have been innovated that high inventory is not required.

## Air Force Tempering 'Make-or-Buy' Regulation

(Continued from page 1)

strong fight against the "feeler" proposals sent around by the Air Force. Companies felt the Air Force make-or-buy rule amounted to taking "the prerogatives of management."

Another draft of the regulation was presented to an Aircraft Industry Association Committee, Sept. 26, at a meeting in Los Angeles by Col. Isaac F. Larkey, representative of the director of procurement and production. It turned out to be a "compromise" which dissolved the industry's main objections.

Originally, the Air Force proposed a strict set of regulations which would have bound contractors to an initial "make-or-buy" list stipulated in their contracts unless the Air Force gave advance approval for changes.

Now, however, the service has bent to industry objections and reportedly will allow the prime to change its "make-or-buy" list by merely giving "prior notice" that a change is being made.

If the Air Force objects to the change, however, it can use all means of "persuasion" available, including withholding the use of government facilities, an Air Force official disclosed to PURCHASING WEEK.

Other points of the controversial regulation also have been cleared up. Prime contractors need not spell out a detailed list of "make-or-buy" items in a contract but rather can stick to a relatively small number of critical or major components, assemblies, and sub-systems that are to be built or bought. Contract negotiations will determine just what is considered critical and major.

The Air Force also dropped an original measure in its "feeler" that would have forced contractors to notify the Air Force when a production item had been transferred between "divisions" of a company as subcontractors. Industry claimed the measure was unduly restrictive, what one company labeled a division, another might call a department, etc.

Although industry officials say they are in accord with the objectives of this upcoming regulation, they are still seeking some changes, mainly in the language as now written.

An A.I.A. subcommittee, composed of representatives from North American Aviation, Martin, Radio Corp. of America, and General Electric, is currently collecting comments from contractors. They will meet with Air Force officials in Washington, Oct. 24, for what will probably be the final meeting on the new regulation.

A main source of irritation to aircraft makers is the political implications behind the proposed regulation. Many claim that the Air Force is making this move because of "political pressure" raised by the Senate Small Business Subcommittee (see Washington Perspective p. 4).

This committee, headed by Senator George B. Smathers (D-Fla.), recently has been urging the defense department to bring more small companies into the missile procurement program.

"The Air Force is apparently taking the first step in this direction," Howard Golem, director of procurement for Convair Aircraft Co., San Diego, told

PURCHASING WEEK. "Politicians have been screaming that the Small Business Act has no teeth. I guess this new regulation might be considered the first molar."

Another industry spokesman said it is true that subcontractors are getting less dollars than before. "But," he added, "This is accounted for by the switch to missile production. There aren't as many dollars to go around as before."

Once the new regulation becomes official, it will be implemented into the Air Force Procurement Manual and inserted into contracts at the time of negotiation.

One major aircraft manufacturer hinted that many companies may object to having this in the actual contract. This, he said, could stall negotiations on contracts of major importance to the government and national defense.

### Seaway Spurs R.R. Competition

(Continued from page 1)

Alaska traffic via Seattle and other Puget Sound ports as a result of that territory's new statehood.

A Chicago, Rock Island and Pacific Railroad spokesman said his line has no plans to distribute brochures or reorganize his freight setup in the light of the seaway opening. The spokesman said the Rock Island had had close liaison with ship lines for years and will leave the "paper work to the custom house brokers."

## Martin Revamps, On 'Make-or-Buy'

(Continued from page 1)

springs, clips, clamps, hoses, tubing, etc., are normally purchased and don't come under consideration of the committee except in unusual cases.

It is the various components that come off the design board as the final product evolves—be it missile, atomic sub, or supersonic aircraft—that needs thought.

"In this business," explained a Martin spokesman, "one seldom knows if the end product will have much semblance to the original design and makeup."

Each engineering release goes first to the committee. The group must know where the work load is going so that the work-force does not have to run up overtime.

Another consideration is whether new work coming in on top of old could possibly change the work load and projection all around. In other words, cost, although of major importance, is not always the deciding factor.

Besides letting out sub-contracts, the "make-or-buy" committee can also decide to send work to Martin's plants at Orlando, Fla., or Baltimore, Md.

"The committee's task is to provide better control over work and equipment matters," the Martin spokesman concluded. "There is no intent to eliminate suppliers—in fact, we might find that more outside purchases for smoother operation."

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